# CURRICULUM PLANNING AND IMPLEMENTATION
## Course Name: Video Editing Techniques

**Programme: M.Voc (WTM)**
**Semester: II**
**Name of the Teacher: Harpreet Singh**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  harpreet.computerlkc@gmail.com**

## Objectives of the Course:
This course aims to teach the students about video editing tips and techniques. This course is very useful and interesting for those students who have interest in video editing field and want to improve their editing skills. This course offers lots of different kind of video editing techniques for e.g. linear and non linear editing, video formats and audio formats. Creating new vide3o projects, understanding timelines and all software related things. Different types of video effects and render setting are also included in this course.

## Course Content:
The content of this course is very interesting, students get to learn video editing:
- **Section A:** Nonlinear and Nondestructive editing, video and audio formats, time codes, codec's.
- **Section B:** creating new projects, capturing, working with timeline, titles, audios, Keyes.
- **Section C:** understanding matte, chroma key, superimposing clips and video transitions.
- **Section D:** Render settings, video effects, workflow of Premiere and FCP and other useful tools

## Detailed Course Contents: Available at:  www.gndu.ac.in

## What will be the teaching methods:
- Lectures : six per week
- Assignments: Students have to use their skills to create videos

- Editing Guide

**Program Learning Outcomes:**

**A. Knowledge and Understanding):**

Students will

- understand basics of video editing
- learn different video editing styles
- learn how to work with timeline, video formats, audios titles etc.
- get knowledge about different video editing software's like FCP, Adobe Premiere etc.
- Different video effects and render outputs are also covered in this

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)**<br><br>1.Class Tests (section wise)<br><br>2.Student Seminars<br><br>3. In House Exams | | |
| | **40%** | **After Each Section** |
| | | **Every week** |
| | **40%** | **Last Week of September** |
| **End of Semester Exam** | **40%** | **Last week of November onwards** |

**Teaching Outline:**

| Section | Teaching Dates |
|---|---|
| I | 15 January to 30 January |
| II | 1 February to 29 February |
| III | 2 to 21 March |
| IV | 23 March to 7 April |
| Revision | Till Exams |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: M.Voc Web technology & Multimedia

**Programme :  Visual Effects**
**Semester: II**
**Name of the Teacher: Retinder Kaur**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  retindercomputerlkc@gmail.com**

## Objectives of the Course:

This course aims at learning of Adobe After Effects is that students come to know how motion graphics and effects works in picture industry. The various stages through the films/pictures go through to get final touch or the way of film making in industry. Secondly how the final touch or compositions of movies or advertisements etc, create in after effects using effects, Chroma and Motion Graphics.

## Course Content:

The course provides an introduction about

- In first section – Make Composite in After Effects, The Timeline, Selections: The Key to Compositing, Color Correction, Color Keying, Rotoscoping and Paint, Effective Motion Tracking, Color and Light..
- Second Section is about Visual Effects Description Types, Particles, Analysis, Size, Sand Effects, Smoke Effects, Fire Effects, Cloud Effects, Snow Effects.
- Third Section is about Designing Paint Effects, coloring paints, Gather raw footage, materials, Effects on seasons, Designing Glass image, Designing Different glass reflection, Designing Glow Effects, Liquid Effects and Reflection design.
- Fourth section is about Introduction and advanced functions, Converting images from 2D to 3D Pictures. Creating 3D Effects, Differentiation 2D effects and 3D effects.

**Detailed Course Contents: Available at**  www.gndu.ac.in

## What will be the teaching methods:

- Lectures : Six days per week of practical practices
- Assignments : Assignments after completion of topic
- Practical practice

## Program Learning Outcomes:

Practical Assignments:

- Create a motion graphics on any topic ( to create resume, portfolio etc.) using masking, rotoscoping and stroke.
- Work on Chroma and create a scene.
- Write a name in 3d and animate it different camera angles.
- Create a logo with particles and paint effects.
- Create a 3D room using lights and camera

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (Unit wise) 2.Assignments 3. Discussion | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **After Each Unit** |
| **End of Semester Exam** | **40%** | **Last week of April** |

## Teaching Outline:

| Unit/Section | Teaching Dates |
|---|---|
| I | 15th Jan. to 31st Jan. |
| II | 1st Feb. to 20th Feb. |

| III | 21$^{st}$ Feb. to 7$^{th}$ March |
| IV | 8$^{th}$ March to 25$^{th}$ March |
| Project & Assignments | Till Exams |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## References

- Adobe After Effects 5 for Windows After by Antony Bolante : Indian Edition 2002 Published by G.C. Jain for Techmedia
- Adobe After Effects CS6 Visual Effects and Compositing Studio Techniques by Mark Christiansen
- Adobe After Effects Help and Tutorials by Adobe System

# CURRICULUM PLANNING AND IMPLEMENTATION

**Course Name: M.Voc (Multimedia and Web Technology)**

**Programme : Stop Motion**
**Semester: II**
**Name of the Teacher: Vinay Shweta**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  Vinayshwetacomputerlkc@gmail.com**

## Objectives of the Course:
This course aims to develop reading and writing skills. To develop creativity. To develop drawing skill. To grasp the concept of storyboard creation.Stop Motion Animation is an intermediate course for Cuo-Out, Clay and Puppet Animation.

## Course Content:
The course provides an introduction about
- In first section – Camera Capturing Techniques, Practiceof Interval shoot.
- Second Section –Camera angle, Frame by frame shoot, Understand time lapse.
- Third Section- Editing, Understand the workflow of LR Time Lapse.
- **F**ourth section- Sequence edit and composite in Video and Compositing softwares,Render.
  **Detailed Course Contents: Available at  www.gndu.ac.in**

## What will be the teaching methods:
- Lectures : Six days per week of practical practices
- Assignments : Assignments after completion of topic
- Practical practice

## Program Learning Outcomes:
Practical Written file Assignments:
- Creating Time Lapse video.
- Creating Cutout Animation.

- Creating Stop Motion.

- Creating Clay Animation.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (Unit wise) 2.Assignments 3. Discussion | **40%** | **After Each Unit** |
|  |  | **Every week** |
|  | **40%** | **After Each Unit** |
| **End of Semester Exam** | **40%** | **Last week of April** |

## Teaching Outline:

| Unit/Section | Teaching Dates |
|---|---|
| I | 11th Jan. to 28th Jan. |
| II | 29th Jan. to 17th Feb. |
| III | 18th Feb. to 15th March |
| IV | 16th March to 12th April |
| Practical Practice | Till Exams |

## Attendance Policy
Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: Media Laws and Ethics

**Programme : M.Voc (Multimedia and Web Technology)**
**Semester : II**
**Name of the Teacher : Ms Avneet Kaur**
**Availability Timings : 9.00 AM to 3.30 PM**
**E-mail :  Avneetcomputerlkc@gmail.com**

## Objectives of the Course:

This course aims at providing knowledge about basic legal concepts of India and explaining to them their basic rights which every citizen must be familiar with. This course acquaints students with the core concept clarity of cyber laws which prepares them to become the better digital citizens and become the responsible citizens of the nation.  It also focuses on the acts and organizations working for the web media to have a better understanding of the cyber world which is the media being used on the higher pace lately.

## Course Content:

This course explains the basic legal concepts of India. It also explains them the fundamental rights, Duties and Directive Principles of State Policy. It also covers the evolution of concept of freedom of Press. It explains to them the various rights essential for Indian Citizen. It throws light on various acts made for cyber security and how the menace of cyber threat be curbed. It also focuses on ethics and code of conduct to be followed by the citizens of the nation in order to work efficiently in the nation.

## Detailed Course Contents: Available at  www.gndu.ac.in

## What will be the teaching methods:

- Lectures : Six per week
- Student Seminars: Two per week
- Assignments : The students will be asked to read the textbooks in advance and write articles on given topics.

- Group discussions
- Participatory and Experiential Learning
- Quiz and Debates

**<u>Program Learning Outcomes:</u>**

**<u>(Knowledge and Understanding, Intellectual Skills, Practical Skills, Transferable skills).</u>**

**<u>Learning Outcomes:</u>**

A. **<u>Knowledge and Understanding</u>):**
Students will:
- have knowledge about the basic legality related to web media.
- have clear vision of their rights and duties as Indian citizens.
- will learn various acts and ethics related to web media.

B. **<u>Intellectual (Cognitive/ Analytical) Skills</u>:**
Students will be able to
- inculcate in them the sense of responsibility of using the web technology more efficiently and with utmost safety.
- analyze and learn about the safety and preventive measures taken by the judiciary and executive organs of the nation.
- have a detailed knowledge about various acts of web technology.
- think critically about the cyber security and work accordingly.

C. **<u>Practical Skills</u>**
Students will learn to:
- Use the web technology more safely.
- Follow the code of ethics mandatory for web technology.
- Respect their constitutional norms related to web technology.

D. **<u>Transferable Skills</u> :**
Students will be able to

- disseminate information and knowledge about the laws related to web technology to their peers and people around them.
- grow digitally without any threat.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)**<br><br>1.Class Tests (Unit wise)<br><br>2.Student Seminars<br><br>3. In House Exams | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **Last Week of March** |
| **End of Semester Exam** | **40%** | **Last week of April onwards** |

### Teaching Outline:

| Unit | Teaching Dates |
|---|---|
| I | 11 January to 08 February |
| II | 11February to 04 March |
| III | 05 March to 20 March |
| IV | 23 March to 01 April |
| Revision | Till 15 April |

### Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

### Text Books:

- Media Laws and Indian Constitution by Kundra S

- Handbook of Cyber Laws by Vakul Sharma.

- Practicing Journalism by Nailinin Rajan

- International Information Flow by Hamid Moulana.

**E- resources**

- https://www.myadvo.in/blog/what-is-the-cyber-law-in-india/

- https://cyberlawsindia.net/

- https://www.constitution.org/cons/india/p03.html

- https://www.mea.gov.in/Images/pdf1/Part4.pdf

**Curriculum planning and implementation**

**Paper Name**:  Mobile Computing

**Class MSc- (IT)- II**

**Name of the teacher: Sandeep Singh**

**Availability timings: 9.00AM To 3.30 PM**

**E- Mail: sandeepcomputerlkc@gmail.com**

**Objectives of Course:**

To make students familiar with fundamentals of mobile communication systems,

- The basic principles of the modern mobile and wireless communication systems.
- Understanding the operation of mobile communications systems and their generation divisions.
- Knowledge of GSM mobile communication standard, its architecture, logical channels, advantages and limitations.
- To differentiate various Wireless LANs.

**Course Content:  Detailed Corse Content Available at: www.gndu.ac.in**

**What will be the Teaching Methods:**

- Lectures: Six per Week.
- Assignment: Students are asked to read topics and will make assignment on different topics of mobile computing
- Group Discussion
- PowerPoint Presentation

**COURSE OUTCOMES:**

After completing this course, students will be able to:

1. To make students familiar with various generations of mobile communications

2. To understand the concept of cellular communication

3. To understand the basics of wireless communication

4. Knowledge of GSM mobile communication standard, its architecture, logical channels, advantages and limitations.

5. Knowledge of CDMA mobile communication standard, its architecture, logical channels, advantages and limitations.

6. To differentiate various Wireless LANs.

### Learning Outcomes:

**A. Knowledge and Understanding:**
Knowledge and Understanding Skills On successful completion of the course, graduates should be able to:

1. Describe the basic concepts and principles in mobile computing
2. Understand the concept of Wireless LANs, PAN, Mobile Networks, and Sensor Networks
3. Explain the structure and components for Mobile IP and Mobility Management
4. Understand positioning techniques and location-based services and applications
5. Describe the important issues and concerns on security and privacy

**B. Professional Skill :**

- Acquire the knowledge to administrate and to maintain a Wireless LAN

| Modes of Assessment | Minimum Score Required Qualify for the next Exam/Class | |
| --- | --- | --- |
| Continuous Internal Evaluation | | |
| Class test | **40%** | **After Each Unit** |
| Assignment | **40%** | **Every Week** |
| House Exam | **40%** | **Last Week of March** |
| End of Semester Exam | **40%** | **Last Week of April** |

| Unit | Teaching Dates |
|---|---|
| Unit 1 | 15 Jan to 15 feb, 2020 |
| Unit 2 | 17feb to 14 mar, 2020 |
| Unit 3 | 16 mar to 10 apr,2020 |
| Unit 4 | 13apr to 30 apr ,2020 |
| Revision | Till end of session |

**Attendance Policy:**

Lecture Attendance is Mandatory. Students are expected to maintain 75% attendance of total lectures delivered, failing which they will be detained from appearing in university examinations.

**Textbook/References:**

1) T. S. Rappaport, Wireless Communications, PHI, 2002.

2) Mobile Communication, Jochen Schiller, Pearson.

## CURRICULUM PLANNING AND IMPLEMENTATION

### Subject Name: Distributed Databases

**Programme : M.Sc.(Information Technology)**

**Semester: II**

**Name of the Teacher: Dr. Baldev Singh**

**Availability Timings: 9.00 AM to 4.00 PM**

**E-mail: bsd.lkc@gmail.com**

**Objectives:**

It aims at acquainting students better with the basics of Distributed DBMS, different Architectural Models for DDBMS, Data allocation, Relational Database Design, Information Requirements for Data allocation, Query Processing & Optimization in context of distributed databases. Career prospectus after completion of course of study are as Data manager, Data administrator, Database analyst, Database designer and allied jobs. Further Knowledge of database management systems software and strong programming skills are essential for achieving heights in this field.

- The key goal is to prepare students for a professional career in the field of data administration and database design.
- To get acquaint students with good knowledge of Distributed DBMS. During the course, students will learn about data distribution, data distribution mechanism/ techniques along with its pros/cons.
- To get acquaint students with Query Decomposition and Distributed Concurrency Control issues, methods and their merits and demerits.

**Course Content**

The course contents includes the concepts of Distributed DBMS, Architectural Models for DDBMS, Distributed Relational Database Design, Information Requirements for Data allocation, Distributed Relational Database Query Processing & Optimization, Query Decomposition and It aims at acquainting students with the concepts of Distributed DBMS, Architectural Models for DDBMS, Distributed Relational Database Design, Information Requirements for Data allocation, Distributed Relational Database Query Processing & Optimization, Query Decomposition and Distributed Concurrency Control.

### Detailed Course Contents: Available at http://online.gndu.ac.in/syllabii.asp

**Weekly 6 Lectures.**

**Planning and Implementation of the curriculum**

| Content/Topic Cover | Scheduled Programme | Mode of Delivery | Status/Remarks |
|---|---|---|---|
| **Session-I** | | | |
| Distributed DDBMS, Homogenous and Heterogeneous DDBMS. Functions of DDBMS its Architecture and<br><br>Architectural Models. | Jan 15, 2020 to Feb 05, 2020 | Lecture using<br><br>White Board,<br><br>PPT Presentations | Regular classes, Assignment |
| ---End of Session-I---- Problem and Case studies Discussion | | | |
| **Session-II** | | | |
| Distributed Relational Database Design<br><br>Fragmentation: Reasons, Alternatives, Degree, Information requirement. Horizontal, Vertical,<br><br>Hybrid Fragmentation.<br><br>Allocation: Allocation Problem, Information Requirements for allocation. | Feb 06, 2020 to Feb 28, 2020 | Lecture using<br><br>White Board,<br><br>PPT Presentations | Regular classes, Seminars, Assignment, Tests |
| ---End of Session-II----  Problem and Case studies Discussion | | | |
| **Session-III** | | | |
| Distributed Relational Database Query Processing & | March 01 to March 20, 2020 | Lecture using<br><br>White Board, | Regular classes, Seminars, Class Tests |

| | | | |
|---|---|---|---|
| Optimization<br><br>Query Decomposition, Localization of Distributed Data, Query Optimization, Introduction to<br><br>Distributed Query Optimization Algorithms | | PPT Presentations | |
| ---End of Session-III---- Problem and Case studies Discussion | | | |
| **Session-IV** | | | |
| Distributed Concurrency Control, Objectives, Distributed Serializability, Centralized two-phase<br><br>locking, Distributed two-phase locking. | March 21, to April 10, 2020 | Lecture using<br><br>White Board,<br><br>PPT Presentations | Regular classes, Seminars, Class Tests |
| ---End of Session-IV---- Problem and Case studies Discussion | | | |
| **April 11,2020 Onwards up to Preparatory Holidays:**<br><br>Revision of Syllabus, Problem Solutions, Discussions, and Previous Papers Discussion | | | |

**References:**

1. M.Tamer Ozsu, Patrick Valdureiz, *'Principles of Distributed Database Systems'* Second Edition, Prentice Hall, 2002.

2. Romez Elmasri, Shamkant B.Navathe, *'Fundamentals of Database Systems'* Pearson Education, 2005.

3. Silberschatz, Korth, Sudershan "Database System Concepts" 4th Ed. McGraw Hill, 2006.

4. Connolly & Begg "Database Systems – A practical approach to design, Implementation and Management, 3rd Ed. Pearson Education, 2005.

**CURRICULUM PLANNING AND IMPLEMENTATION**

**Course Name: Image Processing**
**Programme : MSc(IT)**
**Semester: II**
**Name of the Teacher: Sanjeev Kumar Anand**
**Availability Timings: 9.00 AM to 4.00 PM**
**E-mail:  sanjeevkumarcomputerlkc@gmail.com**

**Objectives of the Course:**

**SECTION–-A**
Introduction to Image Processing Systems, Digital Image Fundamentals:- Image model, Relationship between Pixels, Imaging geometry, Camera model.
Manipulation on Images:- Images transformation : Introduction to FT, DFT and FFT. Walsh
transformation, Hadamard transformation, Hotelling transformation, Histogram.
Image Smoothing: - Neighborhood Averaging, Median Filtering, Low Pass Filters, Average of
Multiple Images, Image Sharpening by Differentiation Technique, High Pass filtering.

**SECTION–-B**
Image Restoration: - Degradation models for continuous function, effect of diagonalization, on degradation, algebraic approach to restoration, interactive restoration, Gray level interpolation.
Image Encoding and Segmentation: - Encoding, Mapping, Quantizer and Coder.
Segmentation: - Detection of discontinuation by point detection, line detection, edge detection.
Edge linking and boundary detection:- Local analysis, global by graph, theoretic techniques.

**SECTION–-C**
Thresh-holding: - definition, global thresh-holding.
Filtering**:**- median, gradient, simple method of representation signatures, boundary segments,
skeleton of region.
Image observation models, Inverse & Weiner fittening, FIR Weiner fitters, Fittening using Image
transforms, Least square fitters, Generalized inverse, SVD & iterative methods.

**SECTION–-D**
Spatial feature Extraction, Transform feature, Edge detection, Boundary extraction, Boundary
Representation, Region representation, Moment representation.
Structures Shape features, Texture, Scene matching & detection, Image Segmentation, Classification techniques, Image understanding.

**References**:
1. Digital Image Processing by Gonzalez & Wood, Addison Wesley, 2000.
2. Digital Image Processing by A.K.Jain, Pearson Education India, 2005.

**Paper Name**:  Mobile Computing

**Class MSc- (IT)- II**

**Name of the teacher: Sandeep Singh**

**Availability timings: 9.00AM To 3.30 PM**

**E- Mail: sandeepcomputerlkc@gmail.com**

**<u>Objectives of Course:</u>**

To make students familiar with fundamentals of mobile communication systems,

- The basic principles of the modern mobile and wireless communication systems.
- Understanding the operation of mobile communications systems and their generation divisions.
-  Knowledge of GSM mobile communication standard, its architecture, logical channels, advantages and limitations.
-  To differentiate various Wireless LANs.

**Course Content:  Detailed Corse Content Available at: www.gndu.ac.in**

**<u>What will be the Teaching Methods:</u>**

- Lectures: Six per Week.
- Assignment: Students are asked to read topics and will make assignment on different topics of mobile computing
- Group Discussion
- PowerPoint Presentation

**<u>COURSE OUTCOMES:</u>**

After completing this course, students will be able to:

1. To make students familiar with various generations of mobile communications
2. To understand the concept of cellular communication
3. To understand the basics of wireless communication
 4. Knowledge of GSM mobile communication standard, its architecture, logical channels, advantages and limitations.
 5. Knowledge of CDMA mobile communication standard, its architecture, logical channels, advantages and limitations.
 6. To differentiate various Wireless LANs.

 **<u>Learning Outcomes:</u>**
 C. **<u>Knowledge and Understanding:</u>**
    Knowledge and Understanding Skills On successful completion of the course, graduates should be able to:
    6. Describe the basic concepts and principles in mobile computing

7. Understand the concept of Wireless LANs, PAN, Mobile Networks, and Sensor Networks
8. Explain the structure and components for Mobile IP and Mobility Management
9. Understand positioning techniques and location-based services and applications
10. Describe the important issues and concerns on security and privacy

### D.  Professional Skill :

- Acquire the knowledge to administrate and to maintain a Wireless LAN

| Modes of Assessment | Minimum Score Required Qualify for the next Exam/Class | |
|---|---|---|
| Continuous Internal Evaluation | | |
| Class test | **40%** | After Each Unit |
| Assignment | **40%** | Every Week |
| House Exam | **40%** | Last Week of March |
| End of Semester Exam | **40%** | Last Week of April |

### Teaching Outline:

| Unit | Teaching Dates |
|---|---|
| Unit 1 | 15 Jan to 15 feb, 2020 |
| Unit 2 | 17feb to 14 mar, 2020 |
| Unit 3 | 16 mar  to  10 apr,2020 |
| Unit 4 | 13apr to 30 apr ,2020 |
| Revision | Till  end of session |

### Attendance Policy:

Lecture Attendance is Mandatory. Students are expected to maintain 75% attendance of total lectures delivered, failing which they will be detained from appearing in university examinations.

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1) T. S. Rappaport, Wireless Communications, PHI, 2002.

2) Mobile Communication, Jochen Schiller, Pearson.

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**CURRICULUM PLANNING AND IMPLEMENTATION**

**Subject Name: Distributed Databases**

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**Programme : M.Sc.(Information Technology)**

**Semester: II**

**Name of the Teacher: Dr. Baldev Singh**

**Availability Timings: 9.00 AM to 4.00 PM**

**E-mail: bsd.lkc@gmail.com**

**Objectives:**

It aims at acquainting students better with the basics of Distributed DBMS, different Architectural Models for DDBMS, Data allocation, Relational Database Design, Information Requirements for Data allocation, Query Processing & Optimization in context of distributed databases. Career prospectus after completion of course of study are as Data manager, Data administrator, Database analyst, Database designer and allied jobs. Further Knowledge of database management systems software and strong programming skills are essential for achieving heights in this field.

- The key goal is to prepare students for a professional career in the field of data administration and database design.
- To get acquaint students with good knowledge of Distributed DBMS. During the course, students will learn about data distribution, data distribution mechanism/ techniques along with its pros/cons.
- To get acquaint students with Query Decomposition and Distributed Concurrency Control issues, methods and their merits and demerits.

**Course Content**

The course contents includes the concepts of Distributed DBMS, Architectural Models for DDBMS, Distributed Relational Database Design, Information Requirements for Data allocation, Distributed Relational Database Query Processing & Optimization, Query Decomposition and It aims at acquainting students with the concepts of Distributed DBMS, Architectural Models for DDBMS, Distributed Relational Database Design, Information Requirements for Data allocation, Distributed Relational Database Query Processing & Optimization, Query Decomposition and Distributed Concurrency Control.

## Detailed Course Contents: Available at http://online.gndu.ac.in/syllabii.asp

**Weekly 6 Lectures.**

**Planning and Implementation of the curriculum**

| Content/Topic Cover | Scheduled Programme | Mode of Delivery | Status/Remarks |
|---|---|---|---|
| **Session-I** | | | |
| Distributed DDBMS, Homogenous and Heterogeneous DDBMS. Functions of DDBMS its Architecture and Architectural Models. | Jan 15, 2020 to Feb 05, 2020 | Lecture using White Board, PPT Presentations | Regular classes, Assignment |
| ---End of Session-I---- Problem and Case studies Discussion | | | |
| **Session-II** | | | |
| Distributed Relational Database Design Fragmentation: Reasons, Alternatives, Degree, Information requirement. Horizontal, Vertical, Hybrid Fragmentation. Allocation: Allocation Problem, Information Requirements for allocation. | Feb 06, 2020 to Feb 28, 2020 | Lecture using White Board, PPT Presentations | Regular classes, Seminars, Assignment, Tests |
| ---End of Session-II---- Problem and Case studies Discussion | | | |
| **Session-III** | | | |
| Distributed Relational Database Query Processing & Optimization Query Decomposition, Localization of Distributed Data, Query Optimization, Introduction to Distributed Query Optimization Algorithms | March 01 to March 20, 2020 | Lecture using White Board, PPT Presentations | Regular classes, Seminars, Class Tests |
| ---End of Session-III---- Problem and Case studies Discussion | | | |
| **Session-IV** | | | |
| Distributed Concurrency Control, Objectives, Distributed | March 21, to April 10, 2020 | Lecture using White Board, PPT Presentations | Regular classes, Seminars, Class Tests |

| Serializability, Centralized two-phase locking, Distributed two-phase locking. | | | |
|---|---|---|---|
| ---End of Session-IV---- Problem and Case studies Discussion | | | |
| **April 11,2020 Onwards up to Preparatory Holidays:** Revision of Syllabus, Problem Solutions, Discussions, and Previous Papers Discussion | | | |

**References:**

1. M.Tamer Ozsu, Patrick Valdureiz, *'Principles of Distributed Database Systems'* Second Edition, Prentice Hall, 2002.

2. Romez Elmasri, Shamkant B.Navathe, *'Fundamentals of Database Systems'* Pearson Education, 2005.

3. Silberschatz, Korth, Sudershan "Database System Concepts" 4th Ed. McGraw Hill, 2006.

4. Connolly & Begg "Database Systems – A practical approach to design, Implementation and Management, 3rd Ed. Pearson Education, 2005.

**CURRICULUM PLANNING AND IMPLEMENTATION**

**Course Name: Image Processing**
**Programme : MSc(IT)**
**Semester: II**
**Name of the Teacher: Sanjeev Kumar Anand**
**Availability Timings: 9.00 AM to 4.00 PM**
**E-mail:  sanjeevkumarcomputerlkc@gmail.com**

**Objectives of the Course:**

**SECTION–-A**
Introduction to Image Processing Systems, Digital Image Fundamentals:- Image model,
Relationship between Pixels, Imaging geometry, Camera model.
Manipulation on Images:- Images transformation : Introduction to FT, DFT and FFT.
Walsh
transformation, Hadamard transformation, Hotelling transformation, Histogram.
Image Smoothing: - Neighborhood Averaging, Median Filtering, Low Pass Filters,
Average of
Multiple Images, Image Sharpening by Differentiation Technique, High Pass filtering.
**SECTION–-B**
Image Restoration: - Degradation models for continuous function, effect of
diagonalization, on degradation, algebraic approach to restoration, interactive restoration,
Gray level interpolation.
Image Encoding and Segmentation: - Encoding, Mapping, Quantizer and Coder.
Segmentation: - Detection of discontinuation by point detection, line detection, edge
detection.
Edge linking and boundary detection:- Local analysis, global by graph, theoretic
techniques.
**SECTION–-C**
Thresh-holding: - definition, global thresh-holding.
Filtering:- median, gradient, simple method of representation signatures, boundary
segments,
skeleton of region.
Image observation models, Inverse & Weiner fittening, FIR Weiner fitters, Fittening
using Image
transforms, Least square fitters, Generalized inverse, SVD & iterative methods.
**SECTION–-D**
Spatial feature Extraction, Transform feature, Edge detection, Boundary extraction,
Boundary
Representation, Region representation, Moment representation.
Structures Shape features, Texture, Scene matching & detection, Image Segmentation,
Classification techniques, Image understanding.

**References**:
1. Digital Image Processing by Gonzalez & Wood, Addison Wesley, 2000.
2. Digital Image Processing by A.K.Jain, Pearson Education India, 2005.

**Teacher Name: Navneet Kaur**
**Department Name: Computer Science and IT**


**Course Name:** MIT-204 Fuzzy Systems
**Class: M.Sc(IT)**         **Semester:** 2nd
**Lectures:** 6L per week.


This course aims at introducing the fundamental theory and concepts of fuzzy systems and their applications in various engineering fields.
 **Objective of this course is :**
- To understand the fundamental theory and concepts of Fuzzy sets theory, Fuzzy relations.
- To understand the concepts of Properties of Membership Functions.
- To understand the basics of an evolutionary computing paradigm known as genetic algorithms and its application to engineering optimization problems.
- To understand decision making using Fuzzy information.
- To understand the use of MATLAB in Fuzzy Logics.

| | Topics | Book/web Reference | Pedagogical Tool |
|---|---|---|---|
| **January 2020** **Week 1** **(11th January 2020)** | **Fuzzy Logic**<br>• The Case for Imprecision,<br>• A Historical Perspective,<br>• The Utility of Fuzzy Systems | [1] Chapter 1 | White Board/PPT |
| **Week 2** | • Limitations of Fuzzy Systems<br>• The Illusion: Ignoring Uncertainty and Accuracy, Uncertainty and Information, The Unknown,<br>• Fuzzy Sets and Membership, Chance Versus Fuzziness<br>• Applications of FL | [1] Chapter 1 | White Board/PPT |
| **Week 3** | **Classical Sets and Fuzzy Sets**<br>• Classical Sets: Operations on Classical Sets,<br>• Properties of Classical (Crisp) Sets,<br>• Mapping of Classical Sets to Functions,<br>• Fuzzy Sets: Fuzzy Set Operations,<br>• Properties of Fuzzy Sets,<br>• Alternative Fuzzy Set Operations | [1] Chapter 2 | White Board/PPT |

| February 2020 Week 1 | **Classical Relations and Fuzzy Relations**<br>• Cartesian Product,<br>• Crisp Relations: Cardinality of Crisp Relations, Operations on Crisp Relations,<br>• Properties of Crisp Relations,<br>• Composition<br>• Fuzzy Relations: Cardinality of Fuzzy<br>• Relations, Operations on Fuzzy Relations<br>• Properties of Fuzzy Relations, Fuzzy Cartesian<br>• Product and Composition, Tolerance and Equivalence Relations: Crisp Equivalence Relation, | [1] Chapter 3 | White Board/PPT |
|---|---|---|---|
| | • Crisp Tolerance Relation, Fuzzy Tolerance and Equivalence Relations: Value Assignments,<br>• Max–Min Method | | |
| Week 2 | **Properties of Membership Functions, Fuzzification, and Defuzzification**<br>• Features of the Membership Function,<br>• Various Forms<br>• Fuzzification<br>• Defuzzification to Crisp Sets<br>• $\lambda$-Cuts for Fuzzy Relations | [1] Chapter 4 | White Board |
| Week 3 | **Defuzzification to Scalars: Methods**<br>• Max membership principle<br>• Centroid method<br>• Weighted average method<br>• Mean max membership<br>• Center of sums<br>• Center of largest area<br>• First (or last) of maxima | [1] Chapter 4 | White Board/PPT |
| Week 4 | **Logic and Fuzzy Systems**<br>• Classical Logic,<br>• Fuzzy Logic,<br>• Approximate Reasoning<br>• Other Forms of the Implication Operation<br>• Fuzzy Systems :Natural Language<br>• Linguistic Hedges<br>• Fuzzy (Rule-Based) Systems | [1] Chapter 5 | White Board |
| March 2020<br><br>Week 1 | • Graphical Techniques of Inference<br>**Development of Membership Functions**<br>• Membership Value Assignments:<br>• Intuition<br>• Inference<br>• Rank Ordering | [1] Chapter 5<br>[1] Chapter 6 | White Board |

| | | [1] Chapter 10 | |
|---|---|---|---|
| | • Cluster Analysis <br> • Cluster Validity <br> • $c$-Means Clustering, <br> • Fuzzy $c$-Means (FCM) <br> • Fuzzy $c$-Means Algorithm | | |
| **April 2020** <br> **Week 1** | **Introduction to MATLAB:** <br> • Fuzzy Logic Toolbox <br> • Fuzzy Logic Simulink Demos <br> • Fuzzy Inference System for various applications. | [2] | White Board |
| **Week 2** | **MATLAB simulation**: <br> • Fuzzy Logic Controller (FLC) implementation. <br> • Simulink Fuzzy Logic Controller (FLC) implementation <br> • Applications of FLC to Control System. <br> • Develop Fuzzy Inference System for various applications. | [2] | White Board |
| **Week 2** | • Neural Networks <br> • Genetic <br> • Algorithms <br> • Inductive Reasoning | [1] Chapter 6 | White Board |
| **Week 3** | **Decision Making with Fuzzy Information** <br> • Fuzzy Synthetic Evaluation <br> • Fuzzy Ordering <br> • Non-transitive Ranking <br> • Preference and Consensus <br> • Multi objective Decision Making | [1] Chapter 9 | White Board |
| **Week 4** | **Fuzzy Classification** <br> • Classification by Equivalence Relations <br> • Crisp Relations <br> • Fuzzy Relations | | White Board |

## Course Outcomes:

**a) Knowledge and Understanding:** Students will

- Understand the concepts of Fuzzy Systems, ANN, Genetic Algorithms and its applications.
- Understand the concepts of feed forward neural networks and learning and understanding of NETWORKS AND FUZZY feedback neural networks.
- Understand the concept of fuzziness involved in various systems and fuzzy set theory.
- Comprehensive knowledge of fuzzy logic control and adaptive fuzzy logic.
- Gain adequate knowledge of application of fuzzy logic control to real time systems.

**b) Intellectual Cognitive/Analytical Skills:**Students will be able to

- Identify process/procedures to handle real world problems using Fuzzy Logics.
- Analyze and apply the neural networks to solve classification and functions approximation.

**c) Practical Skills:** Students will learn

- Back Propagation Networks for real world problems.
- Fuzzy logic in Industrial application.
- Implementation of Genetic Algorithms for optimization problems.
- Designing of fuzzy membership functions and construct fuzzy logic control systems for simple applications.

**d) Transferable Skills:**Students will be able to

- Apply fuzzy logic and reasoning to handle uncertain data to solve various fields of engineering problems.
- Design hybrid system to revise the principles of Fuzzy Logics in various applications.

## Books Reference:

1. Fuzzy Logic with Engineering Applications Third Edition Timothy J. Ross, Wiley Publication

2. Fuzzy Logic Toolbox User's Guide: MATLAB (www.mathworks.com)

# Curriculum planning and implementation

**Paper Name:** Network Design & Performance Analysis

**Class : M.Sc(IT)**

**Semester: II**

**Name of the teacher: Sandeep Bassi**

**Availability timings: 9.00AM To 3.30 PM**

**E- Mail: sandeepbassi@lkc.ac.in**

## Objectives of Course:

1.To teach students how to evaluate a network situation,

2. To help students to identify the most important network aspects that need to be monitored and analysed.

3. Teach network modelling and simulation

## COURSE OUTCOMES

At the end of this course the student shall be able to:

- Describe and develop a network model using analysis and simulation
- Design a new network model to meet requirements for new and existing networks.
- Use quantitative and qualitative techniques to design or upgrade a network
- Make decisions on the proper network technologies, routing protocols, network topologies, node placement, etc.
- Troubleshoot and diagnose network problems
- Identify network issues, risks, bottlenecks, etc

## Detailed Corse Content Available at: www.gndu.ac.in

## What will be the Teaching Methods:

- Lectures: Six per Week.
- Group Discussion : two per week
- Assignment
- PowerPoint Presentation
- Question Bank
- Objective Type Questions

## Teaching Outline:

| Unit | Teaching Schedule |
|------|-------------------|
| Requirements, Planning & Choosing Technology | **Week 1** |
| Traffic Engineering and Capacity Planning | **Week 2-4** |

| | |
|---|---|
| Network Performance Modeling | **Week 5** |
| Technology Comparisons | **Week 6-8** |
| Access Network Design | **Week 9-11** |
| Network Optimization | **Week 12-15** |
| **Revision** | **Till end of session** |

## Attendance Policy:

Lecture Attendance is Mandatory. Students are expected to maintain 75% attendance of total lectures delivered, failing which they will be detained from appearing in university examinations.

## Textbook/References:

- Darren Spohn, Data Network Design, Tata McGraw Hill
- J. McCabe, "Practical Computer Network -- Analysis and Design," Morgan Kaufmann Publishers, Inc. 1998
- T. Mann-Rubinson and K. Terplan, "Network Design: Management and Technical Perspectives," CRC Publisher, 1988.
- R. Breyer and S. Riley, "Switched, Fast, and Gigabit Ethernet," Macmillan Technical Publishing, 3rd Ed, 1999
- P. Oppenheimer, "Top-Down Network Design," Cisco Press, 2001

# Course Outcomes

| | | |
|---|---|---|
| **Class** | : | **Msc I.T IVth Sem** |
| **Subject** | : | **Advanced Java Technologies** |
| **Paper** | : | **MIT-401** |
| **Teacher's Name** | : | **Prof. Ravinder Kaur** |

**Subject Objective:**

- Using Graphics, Animations and Multithreading for designing Simulation and Game based applications.
- Design and develop GUI applications using Abstract Windowing Toolkit (AWT), Swing and Event Handling.
- Design and develop Web applications
- Designing Enterprise based applications by encapsulating an application's business logic.
- Designing applications using pre-built frameworks.
- 

**Outcomes:**

- Learn the Internet Programming, using Java Applets
- Create a full set of UI widgets and other components, including windows, menus, buttons, checkboxes, text fields, scrollbars and scrolling lists, using Abstract Windowing Toolkit (AWT) & Swings
- Apply event handling on AWT and Swing components

| S.No | Topic | Week | Mode |
|---|---|---|---|
| **1.** | Java I/O: I/O Basics, Streams, reading Console input and writing console output, | First 3 weeks | Chalk & Board |
| **2.** | Print Writer Class, Reading & Writing Files, Byte Streams, Character Streams & Serialization | 4$^{th}$ week-5$^{th}$ week | Chalk & Board |
| **3.** | Multithreaded Programming: The Java Thread Model, Thread Priorities, Synchronization, Interthread communication, Suspending Resuming and Stopping Threads. | 6$^{th}$ week | Chalk & Board |
| **4.** | Applets: Applet Basics, Applet Architecture, Applet: Display, Repaint, Parameter Passing. | 7$^{th}$ week-8$^{th}$ week | Chalk & Board |
| **5.** | Event Handling: The Delegation Event Model, Event Classes, Event Listener Interfaces | 9$^{th}$ week-10$^{th}$ week | Chalk & Board |
| **6.** | AWT: Window Fundamentals, Working with Frame Windows, Graphics, Color and Fonts. | 11$^{th}$ week | Chalk & Board |

| 7. | Servlets: Life Cycle of a Servlet, The Servlet API, Reading Servlet Parameters, Handling HTTP Requests and Responses, Cookies & Session Tracking | 12th week- 13th week | Chalk & Board |
|---|---|---|---|
| 8. | Revision of Whole Syllabus | Till Exam | |

**References:**

1) Absolute Beginner's Guide to Computer Basics, Michael Miller.
2) Microsoft Word 2010 Step by Step (Microsoft) by Curtis Frye.
3) Excel 2010 For Dummies, Greg Harvey.

| Sr. No | Academic Activity | Date | Mode of Delivery* | Students Role** |
|---|---|---|---|---|
| 1. | Doubt Clearing | Daily | Chalk & Board | Discussion |
| 2. | Presentations | | Presentation | Active Participation |
| 3. | Class Test | | ---- | Oral and written Test |

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: Network Security Perimeters

**Programme : M Sc Information Technology**
**Semester: IV**
**Name of the Teacher: GAGANDEEP SINGH**
**E-mail:  gagancomputerlkc@gmail.com**

## Objectives of the Course:

A network security course discusses different types of malicious attacks and various methods of responding to them. Students learn how to protect computer networks by using security codes. The course also examines malware, social engineering attacks, operating system holes, web security, privacy and e-mail hacking.

## Course Outcomes

- Upon successful completion of this course, the student should be able to:

- Recognize the basic working principles of computer networks.
- Identify threats to network security.
- Distinguish between various protocols employed to secure networks.
- Utilize network security tools.
- Specify procedures for defending network systems.
- Develop network security policies.
- Specify procedures for recovery from attacks on networks.

## Course Outline:

Essential of Network Perimeter Security
- TCP/IP Primer:
- How Packet filtering Works
- TCP And UDP Ports
- TCP's Tree-way handshake

Cisco Stateful Firewalls :
- How a Stateful Firewall works,
- The concept of state ,
- Stateful Filtering and stateful Inspection.

Proxy Firewalls :
- Fundamentals of Proxying,
- Pros And Cons of Proxy Firewalls, T
- Types of Proxies, Tools of Proxying.

Security Policies
- The roles of Network IDS in a parameter defense
- IDS Sensor placement, Using an IDS Management Networks.
- Instruction Prevention System Design Elements for Premier Security.

## What will be the teaching methods:

- Lectures : six per week
- Student Seminars: two per week
- Assignments : The students will be asked to read the textbook in advance and write articles on given topics
- Powerpoint Presentations
- Participatory and Experiential Learning

## Program Learning Outcomes:

Upon successful completion of this course, students will:

1. have internalized the fundamental notions of threat, vulnerability, attack and countermeasure.
2. be able to identify the security goals of an information system, point out contradictory goals and suggest compromises.
3. understand the purpose of security protocols and be witness to the difficulties of their verification.
4. understand how malicious code functions (e.g., viruses), what the vulnerabilities that make propagation possible (e.g., buffer overflows), and what methods and practices are available for mitigation (e.g., the Common Criteria).
5. understand the threats and vulnerabilities that are specific of a networked environment, and explain countermeasures including firewalls and intrusion detection systems.
6. have an understanding for the vulnerabilities brought about by modern web-based application and services, and discuss countermeasures.
7. balance their knowledge of attack and defense mechanisms against the ethical and social norms of society, and act responsably.

## Teaching Outline:

| Unit | Teaching Dates |
|------|----------------|
| I | 11 Jan to 24 Jan |
| II | 25 Jan to 19 Feb |
| III | 20 Feb  to 10 March |
| IV | 11March to 29 March |
| Revision | Till April |

## Attendance Policy

Class attendance is regarded as being very important. Individual.  Absences will be allowed for illness, family emergencies, and involvement in university activities, such as sports. The penalties specified will meet university guidelines and be distributed to students with the course syllabus on the first day of class.

## TEXTBOOK

Mark Ciampa, "Security+ Guide to Network Security Fundamentals", 2nd Edition, Course Technology Incorporated, 2005, ISBN "0-619-21566-6".

### References:

1. Stallings, W. (2006), *Network Security Essentials: Applications and Standards*, 3<sup>rd</sup> Ed., Prentice-Hall, Inc., Upper Saddle River, NJ.

- Wadlow, Thomas A. (2000), *The Process of Network Security: Designing and Managing a Safe Network*, Addison Wesley Longman, Inc., Reading, MA.

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**CURRICULUM PLANNING AND IMPLEMENTATION**

**Course Name**: Artifical Neural Network

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**Class**: MSc(IT)

**Semester**: IV

**Name of the Teacher**:  Simpy Kataria

**Availability Timings:** 9.00 AM to 3.00 PM

**E-mail**: simpykatariacomputerlkc@gmail.com

**Objectives of the Course:**

- Basic neural network models: multilayer perceptron, distance or similarity based neural networks, associative memory and self-organizing feature map, radial basis function based multilayer perceptron etc.
- Basic learning algorithms: the delta learning rule, the back propagation algorithm, self-organization learning, etc.
- Applications: pattern recognition, Hand writing recognition, information visualization, etc.
- Understand generic machine learning terminology
- Understand motivation and functioning of the most common types of deep neural networks
- Understand the choices and limitations of a model for a given setting

**Outcomes:**

- Understand the learning and generalization issue in neural computation.
- Understand the basic ideas behind most common learning algorithms for multilayer perceptron's, radial-basis function networks, and Kohonen self-organizing maps.
- Implement common learning algorithms using an existing package.
- Apply neural networks to classification and recognition problems

| Topic | Week | Mode |
|---|---|---|
| Neural Network Technology : Evolution of ANN, Architecture of ANN, Knowledge representation. | First 2 weeks | Chalk& Board Presentation |
| Neural Network Learning : Basic learning rules, supervised by unsupervised learning, Method of steepest Descent, LMS Algorithm | 3rd -4th week | Chalk& Board |

| | | | |
|---|---|---|---|
| Single Layer Perceptrons-I : Preceptron Model, Preceptron learning algorithms : Simple learning algorithm, pocket algorithm without and with Ratches, Linear Machines, Kessler's construction, Linear Machines Learning algorithm, Representing Boolean functions. | 5th -7th Week | Chalk& Board Presentation |
| Single Layer Perceptrons-II : Anderson's BSB Model, Hopfied's Model, K-Means Clustering, Topology-Preserving Maps, ART1 and ART2. | $8^{th}$ -$11^{th}$ week | Chalk& Board |
| Multilayer Preceptrons : Back-Propagation, Applications of Back-propagation : NETtalk, Handwritten Character Recognition, Pattern Recognition. | $12^{th}$ -$13^{th}$ week | Chalk& Board |
| Revision of Whole Syllabus | Till Exam | |

**References:**
- SG] Gallant S.L., Neural Networks Learning & Expert Systems, MIT Press, 1993.
- [SH] Haykin S., Neural Networks : A Comprehensive Foundation, Pearson Education Inc., Second Edition, 2003.
- [FS] Freeman J.A., Skapura D.M., Neural Network Algorithms, Applications and Programming Techniques, Addison-Wesley Publications, 1992.

| Sr.No | Academic Activity | Date | Mode of Delivery | Students Role |
|---|---|---|---|---|
| 1. | Doubt Clearing | Daily | Chalk & Board | Discussion |
| 2. | Presentations | 2-3 Days | Presentation | Active Participation And Taking Queries After Presentation |
| 3. | Class Test | ----- | ---- | Theory and Oral Test |

# Curriculum planning and implementation

## Paper Name:Theoryof Computation

**Class MSc- (Computer Science)**

**Semester: II**

**Name of the teacher: Sandeep Singh**

**Availability timings: 9.00AM To 3.30 PM**

**E- Mail: sandeepcomputerlkc@gmail.com**

## Objectives of Course:

The goal of this course is to provide students with an understanding of basic concepts in the theory of computation. At the end of this course students will:

1. To construct finite state machines and the equivalent regular expressions.
2. To prove the equivalence of languages described by finite state machines and regular expressions.
3. To construct pushdown automata and the equivalent context free grammars.
4. To prove the equivalence of languages described by pushdown automata and context free grammars.
5. To construct Turing machines and Post machines.
6. To prove the equivalence of languages described by Turingmachines.

## Course Content:

The course introduces some fundamental concepts in automata theory and formal languages including grammar, finite automaton, regular expression, formal language, pushdown automaton, and Turing machine.

## Detailed Corse Content Available at: www.gndu.ac.in

## What will be the Teaching Methods:

- Lectures: Six per Week.
- Assignment: Students are asked to read topics and will make assignment on different topics of  TOC
- Group Discussion
- PowerPoint Presentation

## COURSE OUTCOMES:

After completing this course, students will be able to:

1. Analyze and design finite automata, pushdown automata, Turing machines, formal languages, and grammars.
2. Demonstrate the understanding of key notions, such as algorithm, computability, decidability, and complexity through problem solving

## Learning Outcomes:
### A. Knowledge and Understanding:
1. Systematically apply appropriate methods to develop an appropriate algorithm.
2. Design Turing machine to solve simple problems.
3. Specify and design computer-based systems.
4. Evaluate systems in terms of general quality attributes and possible tradeoffs presented within the given problem.

| Modes of Assessment | Minimum Score Required Qualify for the next Exam/Class | |
|---|---|---|
| Continuous Internal Evaluation | | |
| Class test | 40% | After Each Unit |
| Assignment | 40% | Every Week |
| House Exam | 40% | Last Week of March |
| End of Semester Exam | 40% | Last Week of April |

## Teaching Outline:

| Unit | Teaching Dates |
|---|---|
| Unit 1 | 15 Jan to 20feb, 2020 |
| Unit 2 | 24 feb to 20 mar, 2020 |
| Unit 3 | 23 mar to 17apr,2020 |
| Unit 4 | 20 aprto 30apr,2020 |
| Revision | Till end of session |

## Attendance Policy:

Lecture Attendance is Mandatory. Students are expected to maintain 75% attendance of total lectures delivered, failing which they will be detained from appearing in university examinations.

**Textbook/References:**

1. G.E. Reevsz, Introduction to Formal Languages, McGraw Hill 1983.

2. M.H. Harrison, Formal Language Theory Wesley 1978.

3. Wolfman Theory and Applications of Cellular Automata, World Scientific, Singapore, 1986.

4. K.L.P. Mishra, N. Chandrasekaran, Theory of Computer Science (Automata, Languages and Computation), 2nd Edition, Prentice Hall of India, 2006.

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: Digital Image Processing

**Programme: M Sc Computer Science**
**Semester: II**
**Name of the Teacher: GAGANDEEP SINGH**
**E-mail:** gagancomputerlkc@gmail.com

## Objectives of the Course:

This course is designed to give Postgraduate students all the fundamentals in 2-D digital image processing with emphasis in image processing techniques, image filtering design and applications.

## Course module objectives:

To understand and gain complete knowledge about

1. The fundamentals of digital image processing
2. Image transform used in digital image processing
3. Image enhancement techniques used in digital image processing
4. Image restoration techniques and methods used in digital image processing
5. Image compression and Segmentation used in digital image processing

## Course Outline

Digital Image Fundamentals

- Elements of Visual Perception.
- Light and the Electromagnetic Spectrum.
- Image Sensing and Acquisition.
- Image Sampling and Quantization.
- Some Basic Relationships between Pixels.
- Linear and Nonlinear Operations.

Image Enhancement in the Spatial Domain

- Basic Gray Level Transformations.
- Histogram Processing.
- Basics of Spatial Filtering.
- Smoothing Spatial Filters.
- Sharpening Spatial Filters.

Color Image Processing

- Color Fundamentals.
- Color Models.
- Pseudocolor Image Processing
- Basics of Full-Color Image Processing.

- Color Transformations.
- Smoothing and Sharpening
- Color Segmentation.

Image Segmentation

- Detection of Discontinuities.
- Edge Linking and Boundary Detection.
- Thresholding.
- Region-Based Segmentation.
- Segmentation by Morphological Watersheds.

## Learning outcomes:

1. Have a clear understanding of the principals the Digital Image Processing terminology used to describe features of images.
2. Have a good understanding of the mathematical foundations for digital manipulation of images; image acquisition; preprocessing; segmentation; Fourier domain processing, compression and analysis. 3. Be able to write programs for digital manipulation of images; image acquisition; preprocessing; segmentation; Fourier domain processing; and compression.
3. Have knowledge of the Digital Image Processing Systems.
4. Learn and understand the Image Enhancement in the Spatial Domain.
5. Learn and understand the Image Enhancement in the Frequency Domain.
6. Understand the Image Restoration, Compression, Segmentation, Recognition, Representation and Description.

## Course/ module components •

- Title: "Digital Image Processing".
  Author(s)/Editor(s): R. C. Gonzalez and R. E. Woods.
  Publisher: Pearson-Prentice-Hall, 2008   ISBN: 0-13-168728-x, 978-0-13-168728-8 Edition: third.
- Title: "Digital Image Processing using Matlab".
  Author(s)/Editor(s): R. C. Gonzalez, R. E. Woods, S. L. Eddins.
  Publisher: Pearson-Prentice-Hall, 2004 ISBN: 0-13-008519-7 Edition: 2nd .

### CURRICULUM PLANNING AND IMPLEMENTATION

### Subject Name: MCS-203: Design & Analysis of Algorithms

**Programme :**M.Sc.(Computer Science)

**Semester:** II

**Name of the Teacher:** Dr. Manohar Singh

**Availability Timings:** 9.00 AM to 4.00 PM

**E-mail:** ms_hodcs@yahoo.com

**Objectives:**

This course aims to introduce the classic algorithms in various domains, and techniques for designing efficient algorithms. Algorithm design and analysis provide the theoretical

backbone of computer science and are a must in the daily work of the successful programmer. The goal of this course is to provide a solid background in the design and analysis of the major classes of algorithms. At the end of the course students will be able to develop their own versions for a given computational task and to compare and contrast their performance. Upon completion of this course, students will be able to do the following:

- Analyze the asymptotic performance of algorithms.
- Write rigorous correctness proofs for algorithms.
- Demonstrate a familiarity with major algorithms and data structures.
- Apply important algorithmic design paradigms and methods of analysis.
- Synthesize efficient algorithms in common engineering design situations.

**Course Content**
The course contents includeConcept of Algorithm, Algorithm Specification, Performance Analysis (Time and space complexities), Asymptotic Notations. General Method ofDivide and Conquer, Binary Search, Finding the Maximum and Minimum, Quick Sort, Selection using Divide & Conquer.Greedy Method, Knapsack Problem, Minimum Cost Spanning Trees (Prim's Algorithm, Kruskal's Algorithm) and Sibnngle-Source Shortest Path using Greedy Method. Dynamic Programming, Multistage Graphs, All Pairs Shortest Paths, Single-Source Shortest Paths, Optimal Binary Search Tress, 0/1 Knapsack and Travelling Saleman Problem. Backtracking, 8-Queens Problem, Graph Coloring and Hamiltonian Cycles. Search and Traversal Techniques of Binary Trees and Graphs.

**Detailed Course Contents: Available at**http://online.gndu.ac.in/syllabii.asp

**Weekly 6 Lectures.**

**Planning and Implementation of the curriculum**

| Content/Topic Cover | Scheduled Programme | Mode of Delivery | Status/Remarks |
|---|---|---|---|
| **Session-I** | | | |
| Concept of Algorithm, Algorithm Specification, Performance Analysis (Time and space Complexities), Asymptotic Notations. Divide and Conquer:General Method, Binary Search, Finding the Maximum and Minimum, Quick Sort, Selection. | Jan 15, 2020 to Feb 05, 2020 | Lecture using White Board, PPT Presentations | Regular classes, Assignment |
| ---End of Session-I---- Problem and Case studies Discussion | | | |
| **Session-II** | | | |
| Greedy Method:General Method, Knapsack Problem, Minimum Cost Spanning Trees (Prim's Algorithm, Kruskal's Algorithm) and Sibnngle-Source Shortest Path. Search and Traversal Techniques of Binary Trees and Graphs. | Feb 06, 2020 to Feb 28, 2020 | Lecture using White Board, PPT Presentations | Regular classes, Seminars, Assignment, Tests |
| ---End of Session-II---- Problem and Case studies Discussion | | | |
| **Session-III** | | | |

| Dynamic Programming: General Single Method, Multistage Graphs, All Pairs Shortest Paths, Single-Source Shortest Paths, Optimal Binary Search Tress, 0/1 Knapsack and Travelling Saleman Problem. | March 01 to March 31, 2020 | Lecture using White Board, PPT Presentations | Regular classes, Seminars, Class Tests |
|---|---|---|---|
| ---End of Session-III---- Problem and Case studies Discussion | | | |
| **Session-IV** | | | |
| **Backtracking:** General Method, 8-Queens Problem, Graph Coloring and Hamiltonian Cycles. | April 1, to April 15, 2020 | Lecture using White Board, PPT Presentations | Regular classes, Seminars, Class Tests |
| ---End of Session-IV---- Problem and Case studies Discussion | | | |
| **April 16,2019 Onwards up to Preparatory Holidays:** Revision of Syllabus, Problem Solutions, Discussions, and Previous Papers Discussion | | | |

**References:**

1. Horowitz, S. Sahni, Fundamentals of Computer Algorithms, Galgotia Publishers, 1984.
2. K. Mehlhorn, Data Structures and Algorithms, Vols. 1 and 2, Springer Verlag, 1984.
3AnanyLevitin, Introduction to the Design & Analysis of Algorithms, Addison, Wesley, 2002.

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**CURRICULUM PLANNING AND IMPLEMENTATION**
**PAPER NAME:Cloud Computing**

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**CLASS: M.Sc.(Computer Science)**
**Semester: II**
**Name: MANDEEP SINGH**
**Email id: lkcmandeep@gmail.com**

**Objectives of the Course:**

The objectives of the course are to:
- Clarify what cloud computing is and what are the various advantages and limitations of using cloud computing,
- Explain the various open challenges and issues of cloud computing,
- Enlighten the different services of cloud computing,
- Highlight the specific privacy and information security risks that can exists using cloud computing services
- Introduce the advance concepts such as Big Data Analytics, Federated Cloud Computing.

**Course Contents**

Cloud computing is the next stage in the evolution of the internet, it provides the means through which everything — from computing power to computing infrastructure, applications and business processes — can be delivered to you as a service wherever and whenever you need them.The topics to be covered are:
- Introduction to cloud computing: Definition, Vision, Reference Model, Benefits, Limitations, Terminology, Open Challenges.
- Virtualization: Definition, Type of Virtualization, Benefits, Limitations, Virtualization and Cloud, Virtual Appliance.
- Cloud Computing Architecture: Service Models, Deployment Models, Cloud Entities, Cloud Clients, Service Level Agreement (SLA) and Quality of Service (QoS) in Cloud Computing. Programming
- Models in Cloud: Thread Programming, Task Programming and Map–Reduce Programming.
- Cloud Security: Infrastructure Security, Data Security, Identity and Access Management, Privacy Management, Security as a Service on Cloud.
- Advance Topic in Cloud: Energy Efficiency in cloud, Market Oriented Cloud Computing, Big-Data Analytics, Federated Cloud Computing

**Weekly Schedule:**

- Week 1:                Introduction to cloud computing its advantages and limitations
- Week 2:                Defining virtualization its advantages and limitations
- Week 3& 4:          Service models and architecture of cloud computing
- Week 5 & 6:         Programming Models in Cloud
- Week 7 &8:          Cloud Security
- Week 9 &10:        Advance Topics in Cloud
- Week 11&12:        Assignments &presentations
- Week 13 &14: Problems Discussion

**References:**

- Barrie Sosinsky, Cloud Computing Bible, Wiley India Pvt. Ltd., ISBN–13: 978–8–12–652980–3, New Delhi, India, 2011.
- Dr. Saurabh Kumar, Cloud Computing: Insights Into New–Era Infrastructure, Wiley India Pvt. Ltd, ISBN–13: 978–8–12–652883–7, New Delhi, India, 2011.
- Fern Halper, Hurwitz, Robin Bloor, Marcia Kaufman, Cloud Computing for Dummies, Wiley India Pvt. Ltd, ISBN–13: 978–0–47–059742–2, New Delhi, India, 2011.

## CURRICULUM PLANNING AND IMPLEMENTATION

### Subject Name: Distributed Database Systems

**Programme :M.Sc(CS)**

**Semester: II**

**Name of the Teacher: HeenaKapoor**

**Availability Timings: 9.00 AM to 3.00 PM**

**E-mail: arora.heena86@gmail.com**

**Objectives:**To make the students understand

- What a distributed database management system (DDBMS) is and what its components are.
- How database implementation is affected by different levels of data and process distribution.
- How transactions are managed in a distributed database environment.
- How database design is affected by the distributed database environment

This course will introduce principles and foundations of distributed databases, including architecture, design issues, integrity control, query processing and optimization, transactions, and concurrency control.

**Course Content**

This course will introduce principles and foundations of distributed databases, including architecture, design issues, integrity control,Representation of database operation in form of a query, operation in form of a query, operations on a query, unary and binary tree in a query, converting a global query into fragment query, join and union operations involving a query, aggregate functions, and parametric queries, query processing and optimization, transactions, and concurrency control, recovery management, deadlock handling, security management in distributed databases.

**Detailed Course Contents**: Available at  www.gndu.ac.in

**The Teaching methods used:**
- Lectures : six per week
- Student Seminars
- Assignments: The students are asked to read the previous question papers and prepare themselves topic wise for the exam by making assignments according to the questions in previous exam papers.
- PowerPoint Presentations

**Planning and Implementation of the curriculum**

| Content/Topic Cover | Planned Date | Mode of Delivery |
|---|---|---|
| Introduction to distributed databases, comparison of distributed and centralized | Jan 15,2020 | Lecture using Black Board, Chalk. |

| | | |
|---|---|---|
| systems, DDBMS | | |
| Distributed database design, Top-Down and Bottom-Up approach, Global relations, fragment and physical image. | Jan 19,2020 | Lecture using Black Board, Chalk |
| Types of schemas. | Jan 28, 2020 | Lecture using Black Board, Chalk |
| Methods of fragmentation of a relation. Horizontal, Vertical and Mixed fragmentation. | Feb 1, 2020 | Lecture using Black Board, Chalk |
| Levels of transparency in a distributed system. | Feb 6, 2020 | Lecture using Black Board, Chalk |
| Semantic Integrity Control. | Feb 11, 2020 | Lecture using Black Board, Chalk and a doc file was given to give detailed explanation of the topic. |
| Representation of database operation in form of a query, operation in form of a query, operations on a query, unary and binary tree in a query, converting a global query into fragment query, join and union operations involving a query, aggregate functions, and parametric queries. | Feb 16, 2020 | Lecture using Black Board, Chalk |
| Introduction to query optimization, estimation of profiles of algebraic operations, optimization graphs, reduction of relation using semi-join and join operation. | Feb 28, 2020 | Lecture using Black Board, Chalk<br><br>And PPT through Projector |
| Properties and goals of transaction management, distributed transactions. | March 9, 2020 | Lecture using Black Board, Chalk |
| Recovery mechanism in case of transaction failures, log based recovery, check pointing, and communication and site failures in case of a transaction and methods to handle them, serializability and timestamp in | March 18, 2020 | Lecture using Black Board, Chalk |

| | | |
|---|---|---|
| distributed databases. | | |
| Introduction to distributed deadlocks, local and global wait for graphs, deadlock detection using centralized and hierarchical controllers, prevention of deadlocks, 2 and 3 phase locking and commitment protocols, reliability in commitment and locking protocols, reliability and concurrency control, reliability and removal of inconsistency. | March 25, 2020 | Lecture using Black Board, Chalk |
| Distributed database administration, authorization and protection in distributed databases. | April 4, 2020 | Lecture using Black Board, Chalk |
| Heterogeneous database system. | April 10, 2020 | Lecture using Black Board, Chalk |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

**References:**
1. Distributed Databases Principles and Systems by Stefano Ceri and GuiseppePelagatti, McGraw- Hill International Editions, 2004.
2. Distributed Database Systems by David Bell, JameGrimson, Addison-Wesley, 1992.
3. M.TamerOzsu, Patrick Valdureiz, 'Principles of Distributed Database Systems' Second Edition, Prentice Hall, 2002.
4. RomezElmasri, ShamkantB.Navathe, 'Fundamentals of Database Systems' Pearson Education, 2005.
5. Silberschatz, Korth, Sudershan "Database System Concepts" 4th Ed. McGraw Hill, 2006.
6. Connolly &Begg "Database Systems – A practical approach to Design, Implementation and Management, 3rd Ed. Pearson Education, 2005.

# CURRICULUM PLANNING AND IMPLEMENTATION
## Course Name: Advanced Web Technology (ASP)

**Programme: Msc (CS)**
**Semester: IV**
**Name of the Teacher: Rakhi Talwar**
**Availability Timings: 9.00 AM to 3.30 PM**
**E-mail:** Rakhi.computerlkc@gmail.com

## Course Objectives:

- Introduction to web technologies
- Web Forms Architecture
- ASP.Net and HTTP
- Web application developing using Visual Studio
- State Management and Web Applications
- ASP.Net Server-side controls
- Caching in ASP.Net
- ASP.Net application configuration
- Debugging, Diagnostics of application
- Connectivity with Database using ADO.Net/Entity Framework
- Data Access Controls
- Personalization and Security
- Introduction to Web Services

## Detailed Course Contents: Available at www.gndu.ac.in

## What will be the teaching methods:

- Lectures : six per week
- Student Seminars: two per week
- Assignments : The students will be asked to read the textbook in advance and make notes on given topics
- PowerPoint Presentations

## Program Learning Outcomes:
- Students will be able to utilize the .NET framework to build distributed enterprise applications.
- Students will be able to develop web applications using a combination of client-side (JavaScript, HTML, and XML) and server-side technologies (ASP.NET, ADO.NET).

- Students will be able to develop ASP.NET Web Services, secure web services, and .NET remoting applications.

## Teaching Outline:

| S.No | Topic | Week | Mode |
|---|---|---|---|
| **9.** | Fundamentals of Web Development: Introduction to HTML, CSS, JAVA SCRIPT (Client Side scripting), Server Site Development uses PHP and ASP.NET. <br><br> Standard Controls: Display information, Accepting user input, Submitting form data, Displaying images, Using the panel control, Using the hyperlink control. | First 3 weeks | Chalk & Board |
| **10.** | Validation Controls: Using the required field validator control, Using the range validator controlusing the compare validator control, Using the regular expression validator control, Using the custom validator control, Using the validation summary controls. | $4^{th}$ week-$5^{th}$ week | Chalk & Board |
| **11.** | Rich Controls: Accepting file uploads, Displaying a calendar, Displaying advertisement, Displaying different page views, Displaying a wizard. | $6^{th}$ week | Chalk & Board |
| **12.** | Designing Website With Master Pages: Creating master pages, Modifying master page Content, Loading master page dynamically. | $7^{th}$ week-$8^{th}$ week | Chalk & Board |
| **13.** | SQL Data Source Control: Creating database connections, Executing database commands, Using ASP.NET parameters with the SQL data source controls, Programmatically executing SQL data source commands, Cashing database data with the SQL data Source controls. | $9^{th}$ week-$10^{th}$ week | Chalk & Board |
| **14.** | List Controls: Dropdown list control, Radio button list controls, list box controls, bulleted list Controls, custom list controls. <br> Grid View Controls: Grid view control fundamentals, using field with the grid view control, Working with grid view control events extending the grid view control. | $11^{th}$ week | Chalk & Board |
| **15.** | Building Data Access Components with ADO.NET: Connected the data access, Disconnected data access, Executing a synchronous database commands, Building data base Objects with the .NET framework. | $12^{th}$ week- $13^{th}$ week | Chalk & Board |
| **16.** | Maintaining Application State: Using browser cookies, using session state, using profiles. | $14^{th}$ week- $15^{th}$ | Chalk & Board |

| | Caching Application Pages and Data: page output caching, partial page caching, data source Caching, data caching, SQL cache dependences. | week | |
|---|---|---|---|
| **17.** | Revision of Whole Syllabus | Till Exam | |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## References:

- ASP.NET 3.5: Stephen Walther
- Pearson Education
- Kalyani Publishers

| Sr. No | Academic Activity | Date | Mode of Delivery* | Students Role** |
|---|---|---|---|---|
| 1. | Doubt Clearing | Daily | Chalk & Board | Discussion |
| 2. | Presentations | | Presentation | Active Participation |

# CURRICULUM PLANNING AND IMPLEMENTATION
## Course Name: Microprocessor and Its Applications

**Programme : MSc(Csc.)**
**Semester: IV**
**Name of the Teacher: Jaskiran Kaur**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:** jaskirancomputerlkc@gmail.com

## Course Content:

Introduction to Microprocessor, General Architecture of Microcomputer System: Microprocessor Units, Input unit, Output unit, Memory unit and auxiliary storage unit. Architecture of 8086/8088 Microprocessor: Description of various pins, configuring the 8086/8088 microprocessor for minimum and maximum mode systems, internal architecture of the 8086/8088 microprocessor, system clock, Bus cycle, Instruction execution sequence. Memory Interface of 8086/8088 Microprocessor: Address space and data organization, generating memory addresses hardware organization of memory address space, memory bus status code, memory control signals, read/write bus cycles, program and data storage memory, dynamic RAM system. Input/Output Interface of the 8086/8088 Microprocessor: I/O interface, I/O address space and data transfer, I/O instructions, I/O bus cycles, Output ports, 8255A Programmable Peripheral Interface (PPI), Serial communication interface (USART and UART) – the RS- 232 C interface. Interrupt Interface of 8086/8088 Microprocessor, Types of Interrupt, Interrupt Vector Table (IVT).

**Detailed Course Contents: Available at**
http://gndu.ac.in/syllabus/201819/ELECENG/MSC%20COMPUTER%20SCIENCE%202018-19.pdf

**Objectives of the Course:**
Students will

- try to learn the basics of the processors and internal hardware of 16 bit and 32 bit microprocessors.
- Get knowledge of General Architecture of Microcomputer System
- Will have a clear idea how data is stored and in which format.
- Will have a wide vision about CPU busses and various input-output modes.

**Program Learning Outcomes:**

(Knowledge and Understanding, Intellectual Skills, practical Skills, Transferable skills).

### B. **Knowledge and Understanding:**
Students will be able

- Understand and devise techniques for faster execution of instructions, improve speed of operations and enhance performance of microprocessors.
- Distinguish between RISC and CISC processors.
- Understand multi core processor and its advantages.

## B. **Intellectual( Cognitive/ Analytical) Skills:**
Students will be able to

- Design system using memory chips and peripheral chips for 16 bit 8086 microprocessor
- Negotiate advanced technologies.
- Formulate and implement IT systems.

## C. **Practical Skills**
Students will able to:

- Write programs to run on 8086 microprocessor based systems.
- Design of the hardware systems.

## D. **Transferable Skills :**
After completing this course, the students are expected to be able to translate and convert the learned knowledge into the design of a simple microprocessor-based device. In long run, the students may use the gained knowledge and skill from this course in designing industrial products that require microprocessors.

## **What will be the teaching methods:**

- Lectures : six per week
- Student Seminars: two per week

- Assignments : The students will be asked to read the textbook in advance and write articles on given topics
- Powerpoint Presentations
- Participatory and Experiential Learning
- Quiz

## Program Learning Outcomes:

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)**<br><br>1.Class Tests (Unit wise)<br><br>2.Student Seminars | 40% | **After Each Unit** |
| | | **Every week** |
| **End of Semester Exam** | 40% | **Last week of April onwards** |

## Teaching Outline:

| Unit | Teaching Dates |
|---|---|
| I | 11<sup>th</sup> January 10<sup>th</sup> February |
| II | 11<sup>th</sup> February to 5<sup>th</sup> March |
| III | 6<sup>th</sup> March to 15<sup>th</sup> April |
| Revision | Till 30<sup>th</sup> April |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## Text Book(s):

Walter Triebel: The 8086 Microprocessor – Architecture, Software and Interfacing Techniques, PHI, Delhi.

## References:

2. Douglas V. Hall: Microprocessors and Interfacing – Programming and Hardware, Tata McGraw Hill Publishing Company Ltd., New Delhi

3. Peter Abel: IBM PC Assembly Language and Programming, PHI, Delhi.

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: Object Oriented Modeling, Analysis and Design

**Programme : M.Sc(CS)**
**Semester: IV**
**Name of the Teacher: Ratnakar Mann**
**Availability Timings: 9.00 AM to 3.30 PM**
**E-mail:** ratnakarcomputerlkc@gmail.com

## Objectives of the Course :

This course is aimed at acquainting students with the new way of thinking about development of software using OMT. The course aims to equip students with the importance, usage and implementation of all the constructs encountered while developing a good object oriented software.

## Course Content:

The course begins with the introduction to object oriented methodology for developing high quality and low cost software. It discusses the pros of using OMT over the traditional procedural method of software development. The entire process of analysis, design and implementation is elaborately discussed in the course. The main thrust area of course is construction of three models namely Object Model, Dynamic Model, Functional Model.

## Detailed Course Contents: Available at  www.gndu.ac.in

## What will be the teaching methods:
- Lectures : six per week
- Student Seminars: two per week
- Assignments : The students will be asked to submit assignment after each unit is completed in the class.
- Powerpoint Presentations
- Providing  e-notes
- Providing  information to students on similar courses available on swayam and nptel
- Quiz

## Program Learning Outcomes:

**Students will learn how to :**

- **Analyze a problem statement.**
- **Construct models for the problem in hand.**
- **Prepare a System Design**
- **Prepare Object Design**
- **Write clean code in Programming Language**
- **Effectively develop a high quality Software.**

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)**<br><br>1.Class Tests (Unit wise)<br><br>2.Student Seminars<br><br>3. In House Exams | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **Last Week of March** |
| **End of Semester Exam** | **40%** | **Last week of April onwards** |

**Teaching Outline:**

| Unit | Topics | Teaching Dates |
|---|---|---|
| I | • Object Orientation,<br>• OMT Methodology, Object and Class,<br>• Link and Association,<br>• Generalization,<br>• Aggregation<br>• Multiple Inheritance, | 11 Jan – 2 Feb 2019 |

| | | | |
|---|---|---|---|
| | • Packages | | |
| II | • Object Meta Modeling,<br>• Metadata and Metamodels,<br>• Functional Modeling Pseudocode with the Object navigation Notation,<br>• ONN Constructs, Combining ONN Constructs. | 4Feb - 23Feb | |
| III | • Analysis<br>• Object Model,<br>• Data Dictionary, Dynamic Model, Functional Model | 25 Feb – 16 March | |
| IV | • Design<br>• Devising an Architecture, Database Management Paradigm,<br>• Object Model, Elaborating the functional Model, Evaluating the Quality of Design Model. | 18 March – 10 April | |
| Revision | | 10 April onwards | |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## Text Book(s):

Object Oriented Modeling and Design By Michael Blaha, William Premerlani, and Prentice Hall.

## References :

1. Object-Oriented Analysis and Design with Applications, by Booch
2. Designing Object-Oriented Software by Rebecca
3. Unified Object-Oriented Modeling, Analysis & Design  by **Sanchari Saha**

# Curriculum planning and implementation

# Paper Name:Theoryof Computation

**Class MSc- (Computer Science)**

**Semester: II**

**Name of the teacher: Sandeep Singh**

**Availability timings: 9.00AM To 3.30 PM**

**E- Mail: sandeepcomputerlkc@gmail.com**

## Objectives of Course:

The goal of this course is to provide students with an understanding of basic concepts in the theory of computation. At the end of this course students will:

7. To construct finite state machines and the equivalent regular expressions.
8. To prove the equivalence of languages described by finite state machines and regular expressions.
9. To construct pushdown automata and the equivalent context free grammars.
10. To prove the equivalence of languages described by pushdown automata and context free grammars.
11. To construct Turing machines and Post machines.
12. To prove the equivalence of languages described by Turingmachines.

## Course Content:

The course introduces some fundamental concepts in automata theory and formal languages including grammar, finite automaton, regular expression, formal language, pushdown automaton, and Turing machine.

## Detailed Corse Content Available at: www.gndu.ac.in

## What will be the Teaching Methods:

- Lectures: Six per Week.
- Assignment: Students are asked to read topics and will make assignment on different topics of  TOC
- Group Discussion
- PowerPoint Presentation

## COURSE OUTCOMES:

After completing this course, students will be able to:

3. Analyze and design finite automata, pushdown automata, Turing machines, formal languages, and grammars.
4. Demonstrate the understanding of key notions, such as algorithm, computability, decidability, and complexity through problem solving

## Learning Outcomes:
### B. Knowledge and Understanding:
5. Systematically apply appropriate methods to develop an appropriate algorithm.
6. Design Turing machine to solve simple problems.
7. Specify and design computer-based systems.
8. Evaluate systems in terms of general quality attributes and possible tradeoffs presented within the given problem.

| Modes of Assessment | Minimum Score Required Qualify for the next Exam/Class | |
|---|---|---|
| Continuous Internal Evaluation | | |
| Class test | 40% | After Each Unit |
| Assignment | 40% | Every Week |
| House Exam | 40% | Last Week of March |
| End of Semester Exam | 40% | Last Week of April |

## Teaching Outline:

| Unit | Teaching Dates |
|---|---|
| Unit 1 | 15 Jan to 20feb, 2020 |
| Unit 2 | 24 feb to 20 mar, 2020 |
| Unit 3 | 23 mar to  17apr,2020 |
| Unit 4 | 20 aprto 30apr,2020 |
| Revision | Till  end of session |

## Attendance Policy:

Lecture Attendance is Mandatory. Students are expected to maintain 75% attendance of total lectures delivered, failing which they will be detained from appearing in university examinations.

**Textbook/References:**

1. G.E. Reevsz, Introduction to Formal Languages, McGraw Hill 1983.

2. M.H. Harrison, Formal Language Theory Wesley 1978.

3. Wolfman Theory and Applications of Cellular Automata, World Scientific, Singapore, 1986.

4. K.L.P. Mishra, N. Chandrasekaran, Theory of Computer Science (Automata, Languages and Computation), 2nd Edition, Prentice Hall of India, 2006.

# CURRICULUM PLANNING AND IMPLEMENTATION
## Course Name: Digital Image Processing

**Programme: M Sc Computer Science**
**Semester: II**
**Name of the Teacher: GAGANDEEP SINGH**
**E-mail:** gagancomputerlkc@gmail.com

## Objectives of the Course:

This course is designed to give Postgraduate students all the fundamentals in 2-D digital image processing with emphasis in image processing techniques, image filtering design and applications.

## Course module objectives:

To understand and gain complete knowledge about

6. The fundamentals of digital image processing
7. Image transform used in digital image processing
8. Image enhancement techniques used in digital image processing
9. Image restoration techniques and methods used in digital image processing
10. Image compression and Segmentation used in digital image processing

## Course Outline

Digital Image Fundamentals

- Elements of Visual Perception.
- Light and the Electromagnetic Spectrum.
- Image Sensing and Acquisition.
- Image Sampling and Quantization.
- Some Basic Relationships between Pixels.
- Linear and Nonlinear Operations.

Image Enhancement in the Spatial Domain

- Basic Gray Level Transformations.
- Histogram Processing.
- Basics of Spatial Filtering.
- Smoothing Spatial Filters.
- Sharpening Spatial Filters.

Color Image Processing

- Color Fundamentals.
- Color Models.
- Pseudocolor Image Processing
- Basics of Full-Color Image Processing.

- Color Transformations.
- Smoothing and Sharpening
- Color Segmentation.

Image Segmentation

- Detection of Discontinuities.
- Edge Linking and Boundary Detection.
- Thresholding.
- Region-Based Segmentation.
- Segmentation by Morphological Watersheds.

## Learning outcomes:

7. Have a clear understanding of the principals the Digital Image Processing terminology used to describe features of images.
8. Have a good understanding of the mathematical foundations for digital manipulation of images; image acquisition; preprocessing; segmentation; Fourier domain processing, compression and analysis. 3. Be able to write programs for digital manipulation of images; image acquisition; preprocessing; segmentation; Fourier domain processing; and compression.
9. Have knowledge of the Digital Image Processing Systems.
10. Learn and understand the Image Enhancement in the Spatial Domain.
11. Learn and understand the Image Enhancement in the Frequency Domain.
12. Understand the Image Restoration, Compression, Segmentation, Recognition, Representation and Description.

## Course/ module components •

- Title: "Digital Image Processing".
  Author(s)/Editor(s): R. C. Gonzalez and R. E. Woods.
  Publisher: Pearson-Prentice-Hall, 2008   ISBN: 0-13-168728-x, 978-0-13-168728-8 Edition: third.
- Title: "Digital Image Processing using Matlab".
  Author(s)/Editor(s): R. C. Gonzalez, R. E. Woods, S. L. Eddins.
  Publisher: Pearson-Prentice-Hall, 2004 ISBN: 0-13-008519-7 Edition: 2nd .
  **CURRICULUM PLANNING AND IMPLEMENTATION**

**Subject Name: MCS-203: Design & Analysis of Algorithms**

**Programme :**M.Sc.(Computer Science)

**Semester:** II

**Name of the Teacher:** Dr. Manohar Singh

**Availability Timings:** 9.00 AM to 4.00 PM

**E-mail:** ms_hodcs@yahoo.com

**Objectives:**

This course aims to introduce the classic algorithms in various domains, and techniques for designing efficient algorithms. Algorithm design and analysis provide the theoretical

backbone of computer science and are a must in the daily work of the successful programmer. The goal of this course is to provide a solid background in the design and analysis of the major classes of algorithms. At the end of the course students will be able to develop their own versions for a given computational task and to compare and contrast their performance. Upon completion of this course, students will be able to do the following:

- Analyze the asymptotic performance of algorithms.
- Write rigorous correctness proofs for algorithms.
- Demonstrate a familiarity with major algorithms and data structures.
- Apply important algorithmic design paradigms and methods of analysis.
- Synthesize efficient algorithms in common engineering design situations.

**Course Content**
The course contents includeConcept of Algorithm, Algorithm Specification, Performance Analysis (Time and space complexities), Asymptotic Notations. General Method ofDivide and Conquer, Binary Search, Finding the Maximum and Minimum, Quick Sort, Selection using Divide & Conquer.Greedy Method, Knapsack Problem, Minimum Cost Spanning Trees (Prim's Algorithm, Kruskal's Algorithm) and Sibnngle-Source Shortest Path using Greedy Method. Dynamic Programming, Multistage Graphs, All Pairs Shortest Paths, Single-Source Shortest Paths, Optimal Binary Search Tress, 0/1 Knapsack and Travelling Saleman Problem. Backtracking, 8-Queens Problem, Graph Coloring and Hamiltonian Cycles. Search and Traversal Techniques of Binary Trees and Graphs.

**Detailed Course Contents: Available at**http://online.gndu.ac.in/syllabii.asp

**Weekly 6 Lectures.**

**Planning and Implementation of the curriculum**

| Content/Topic Cover | Scheduled Programme | Mode of Delivery | Status/Remarks |
|---|---|---|---|
| **Session-I** | | | |
| Concept of Algorithm, Algorithm Specification, Performance Analysis (Time and space Complexities), Asymptotic Notations. Divide and Conquer:General Method, Binary Search, Finding the Maximum and Minimum, Quick Sort, Selection. | Jan 15, 2020 to Feb 05, 2020 | Lecture using White Board, PPT Presentations | Regular classes, Assignment |
| ---End of Session-I---- Problem and Case studies Discussion | | | |
| **Session-II** | | | |
| Greedy Method:General Method, Knapsack Problem, Minimum Cost Spanning Trees (Prim's Algorithm, Kruskal's Algorithm) and Sibnngle-Source Shortest Path. Search and Traversal Techniques of Binary Trees and Graphs. | Feb 06, 2020 to Feb 28, 2020 | Lecture using White Board, PPT Presentations | Regular classes, Seminars, Assignment, Tests |
| ---End of Session-II---- Problem and Case studies Discussion | | | |
| **Session-III** | | | |

| | | | |
|---|---|---|---|
| **Dynamic Programming:** General Single Method, Multistage Graphs, All Pairs Shortest Paths, Single-Source Shortest Paths, Optimal Binary Search Tress, 0/1 Knapsack and Travelling Saleman Problem. | March 01 to March 31, 2020 | Lecture using White Board, PPT Presentations | Regular classes, Seminars, Class Tests |
| ---End of Session-III---- Problem and Case studies Discussion | | | |
| **Session-IV** | | | |
| **Backtracking:** General Method, 8-Queens Problem, Graph Coloring and Hamiltonian Cycles. | April 1, to April 15, 2020 | Lecture using White Board, PPT Presentations | Regular classes, Seminars, Class Tests |
| ---End of Session-IV---- Problem and Case studies Discussion | | | |
| **April 16,2019 Onwards up to Preparatory Holidays:** Revision of Syllabus, Problem Solutions, Discussions, and Previous Papers Discussion | | | |

**References:**

1. Horowitz, S. Sahni, Fundamentals of Computer Algorithms, Galgotia Publishers, 1984.
2. K. Mehlhorn, Data Structures and Algorithms, Vols. 1 and 2, Springer Verlag, 1984.
3AnanyLevitin, Introduction to the Design & Analysis of Algorithms, Addison, Wesley, 2002.

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### CURRICULUM PLANNING AND IMPLEMENTATION
### PAPER NAME:Cloud Computing

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**CLASS: M.Sc.(Computer Science)**
**Semester: II**
**Name: MANDEEP SINGH**
**Email id: lkcmandeep@gmail.com**

### Objectives of the Course:

The objectives of the course are to:
- Clarify what cloud computing is and what are the various advantages and limitations of using cloud computing,
- Explain the various open challenges and issues of cloud computing,
- Enlighten the different services of cloud computing,
- Highlight the specific privacy and information security risks that can exists using cloud computing services
- Introduce the advance concepts such as Big Data Analytics, Federated Cloud Computing.

### Course Contents

Cloud computing is the next stage in the evolution of the internet, it provides the means through which everything — from computing power to computing infrastructure, applications and business processes — can be delivered to you as a service wherever and whenever you need them.The topics to be covered are:
- Introduction to cloud computing: Definition, Vision, Reference Model, Benefits, Limitations, Terminology, Open Challenges.
- Virtualization: Definition, Type of Virtualization, Benefits, Limitations, Virtualization and Cloud, Virtual Appliance.
- Cloud Computing Architecture: Service Models, Deployment Models, Cloud Entities, Cloud Clients, Service Level Agreement (SLA) and Quality of Service (QoS) in Cloud Computing. Programming
- Models in Cloud: Thread Programming, Task Programming and Map–Reduce Programming.
- Cloud Security: Infrastructure Security, Data Security, Identity and Access Management, Privacy Management, Security as a Service on Cloud.
- Advance Topic in Cloud: Energy Efficiency in cloud, Market Oriented Cloud Computing, Big-Data Analytics, Federated Cloud Computing

### Weekly Schedule:

- Week 1:              Introduction to cloud computing its advantages and limitations
- Week 2:              Defining virtualization its advantages and limitations
- Week 3& 4:          Service models and architecture of cloud computing
- Week 5 & 6:         Programming Models in Cloud
- Week 7 &8:          Cloud Security
- Week 9 &10:         Advance Topics in Cloud
- Week 11&12:         Assignments &presentations
- Week 13 &14: Problems Discussion

### References:

- Barrie Sosinsky, Cloud Computing Bible, Wiley India Pvt. Ltd., ISBN–13: 978–8–12–652980–3, New Delhi, India, 2011.
- Dr. Saurabh Kumar, Cloud Computing: Insights Into New–Era Infrastructure, Wiley India Pvt. Ltd, ISBN–13: 978–8–12–652883–7, New Delhi, India, 2011.
- Fern Halper, Hurwitz, Robin Bloor, Marcia Kaufman, Cloud Computing for Dummies, Wiley India Pvt. Ltd, ISBN–13: 978–0–47–059742–2, New Delhi, India, 2011.

<div align="center">

**CURRICULUM PLANNING AND IMPLEMENTATION**

**Subject Name: Distributed Database Systems**

</div>

**Programme :M.Sc(CS)**

**Semester: II**

**Name of the Teacher: HeenaKapoor**

**Availability Timings: 9.00 AM to 3.00 PM**

**E-mail: arora.heena86@gmail.com**

**Objectives:**To make the students understand

- What a distributed database management system (DDBMS) is and what its components are.
- How database implementation is affected by different levels of data and process distribution.
- How transactions are managed in a distributed database environment.
- How database design is affected by the distributed database environment

This course will introduce principles and foundations of distributed databases, including architecture, design issues, integrity control, query processing and optimization, transactions, and concurrency control.

**Course Content**

This course will introduce principles and foundations of distributed databases, including architecture, design issues, integrity control,Representation of database operation in form of a query, operation in form of a query, operations on a query, unary and binary tree in a query, converting a global query into fragment query, join and union operations involving a query, aggregate functions, and parametric queries, query processing and optimization, transactions, and concurrency control, recovery management, deadlock handling, security management in distributed databases.

**Detailed Course Contents**: Available at  www.gndu.ac.in

**The Teaching methods used:**
- Lectures : six per week
- Student Seminars
- Assignments: The students are asked to read the previous question papers and prepare themselves topic wise for the exam by making assignments according to the questions in previous exam papers.
- PowerPoint Presentations

**Planning and Implementation of the curriculum**

| Content/Topic Cover | Planned Date | Mode of Delivery |
|---|---|---|
| Introduction to distributed databases, comparison of distributed and centralized | Jan 15,2020 | Lecture using Black Board, Chalk. |

| | | |
|---|---|---|
| systems, DDBMS | | |
| Distributed database design, Top-Down and Bottom-Up approach, Global relations, fragment and physical image. | Jan 19,2020 | Lecture using Black Board, Chalk |
| Types of schemas. | Jan 28, 2020 | Lecture using Black Board, Chalk |
| Methods of fragmentation of a relation. Horizontal, Vertical and Mixed fragmentation. | Feb 1, 2020 | Lecture using Black Board, Chalk |
| Levels of transparency in a distributed system. | Feb 6, 2020 | Lecture using Black Board, Chalk |
| Semantic Integrity Control. | Feb 11, 2020 | Lecture using Black Board, Chalk and a doc file was given to give detailed explanation of the topic. |
| Representation of database operation in form of a query, operation in form of a query, operations on a query, unary and binary tree in a query, converting a global query into fragment query, join and union operations involving a query, aggregate functions, and parametric queries. | Feb 16, 2020 | Lecture using Black Board, Chalk |
| Introduction to query optimization, estimation of profiles of algebraic operations, optimization graphs, reduction of relation using semi-join and join operation. | Feb 28, 2020 | Lecture using Black Board, Chalk<br><br>And PPT through Projector |
| Properties and goals of transaction management, distributed transactions. | March 9, 2020 | Lecture using Black Board, Chalk |
| Recovery mechanism in case of transaction failures, log based recovery, check pointing, and communication and site failures in case of a transaction and methods to handle them, serializability and timestamp in | March 18, 2020 | Lecture using Black Board, Chalk |

| | | |
|---|---|---|
| distributed databases. | | |
| Introduction to distributed deadlocks, local and global wait for graphs, deadlock detection using centralized and hierarchical controllers, prevention of deadlocks, 2 and 3 phase locking and commitment protocols, reliability in commitment and locking protocols, reliability and concurrency control, reliability and removal of inconsistency. | March 25, 2020 | Lecture using Black Board, Chalk |
| Distributed database administration, authorization and protection in distributed databases. | April 4, 2020 | Lecture using Black Board, Chalk |
| Heterogeneous database system. | April 10, 2020 | Lecture using Black Board, Chalk |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

**References:**
7. Distributed Databases Principles and Systems by Stefano Ceri and GuiseppePelagatti, McGraw- Hill International Editions, 2004.
8. Distributed Database Systems by David Bell, JameGrimson, Addison-Wesley, 1992.
9. M.TamerOzsu, Patrick Valdureiz, 'Principles of Distributed Database Systems' Second Edition, Prentice Hall, 2002.
10. RomezElmasri, ShamkantB.Navathe, 'Fundamentals of Database Systems' Pearson Education, 2005.
11. Silberschatz, Korth, Sudershan "Database System Concepts" 4th Ed. McGraw Hill, 2006.
12. Connolly &Begg "Database Systems – A practical approach to Design, Implementation and Management, 3rd Ed. Pearson Education, 2005.

# CURRICULUM PLANNING AND IMPLEMENTATION
## Course Name: Advanced Web Technology (ASP)

**Programme: Msc (CS)**
**Semester: IV**
**Name of the Teacher: Rakhi Talwar**
**Availability Timings: 9.00 AM to 3.30 PM**
**E-mail:** Rakhi.computerlkc@gmail.com

## Course Objectives:

- Introduction to web technologies
- Web Forms Architecture
- ASP.Net and HTTP
- Web application developing using Visual Studio
- State Management and Web Applications
- ASP.Net Server-side controls
- Caching in ASP.Net
- ASP.Net application configuration
- Debugging, Diagnostics of application
- Connectivity with Database using ADO.Net/Entity Framework
- Data Access Controls
- Personalization and Security
- Introduction to Web Services

## Detailed Course Contents: Available at www.gndu.ac.in

## What will be the teaching methods:

- Lectures : six per week
- Student Seminars: two per week
- Assignments : The students will be asked to read the textbook in advance and make notes on given topics
- PowerPoint Presentations

## Program Learning Outcomes:

- Students will be able to utilize the .NET framework to build distributed enterprise applications.
- Students will be able to develop web applications using a combination of client-side (JavaScript, HTML, and XML) and server-side technologies (ASP.NET, ADO.NET).

- Students will be able to develop ASP.NET Web Services, secure web services, and .NET remoting applications.

## Teaching Outline:

| S.No | Topic | Week | Mode |
|------|-------|------|------|
| **18.** | Fundamentals of Web Development: Introduction to HTML, CSS, JAVA SCRIPT (Client Side scripting), Server Site Development uses PHP and ASP.NET.<br><br>Standard Controls: Display information, Accepting user input, Submitting form data, Displaying images, Using the panel control, Using the hyperlink control. | First 3 weeks | Chalk & Board |
| **19.** | Validation Controls: Using the required field validator control, Using the range validator controlusing the compare validator control, Using the regular expression validator control, Using the custom validator control, Using the validation summary controls. | $4^{th}$ week-$5^{th}$ week | Chalk & Board |
| **20.** | Rich Controls: Accepting file uploads, Displaying a calendar, Displaying advertisement, Displaying different page views, Displaying a wizard. | $6^{th}$ week | Chalk & Board |
| **21.** | Designing Website With Master Pages: Creating master pages, Modifying master page Content, Loading master page dynamically. | $7^{th}$ week-$8^{th}$ week | Chalk & Board |
| **22.** | SQL Data Source Control: Creating database connections, Executing database commands, Using ASP.NET parameters with the SQL data source controls, Programmatically executing SQL data source commands, Cashing database data with the SQL data Source controls. | $9^{th}$ week-$10^{th}$ week | Chalk & Board |
| **23.** | List Controls: Dropdown list control, Radio button list controls, list box controls, bulleted list Controls, custom list controls.<br>Grid View Controls: Grid view control fundamentals, using field with the grid view control, Working with grid view control events extending the grid view control. | $11^{th}$ week | Chalk & Board |
| **24.** | Building Data Access Components with ADO.NET: Connected the data access, Disconnected data access, Executing a synchronous database commands, Building data base Objects with the .NET framework. | $12^{th}$ week- $13^{th}$ week | Chalk & Board |
| **25.** | Maintaining Application State: Using browser cookies, using session state, using profiles. | $14^{th}$ week- $15^{th}$ | Chalk & Board |

| | Caching Application Pages and Data: page output caching, partial page caching, data source Caching, data caching, SQL cache dependences. | week | |
|---|---|---|---|
| **26.** | Revision of Whole Syllabus | Till Exam | |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## References:

- ASP.NET 3.5: Stephen Walther
- Pearson Education
- Kalyani Publishers

| Sr. No | Academic Activity | Date | Mode of Delivery* | Students Role** |
|---|---|---|---|---|
| 1. | Doubt Clearing | Daily | Chalk & Board | Discussion |
| 2. | Presentations | | Presentation | Active Participation |

# CURRICULUM PLANNING AND IMPLEMENTATION
## Course Name: Microprocessor and Its Applications

**Programme : MSc(Csc.)**
**Semester: IV**
**Name of the Teacher: Jaskiran Kaur**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:** jaskirancomputerlkc@gmail.com

## Course Content:

Introduction to Microprocessor, General Architecture of Microcomputer System: Microprocessor Units, Input unit, Output unit, Memory unit and auxiliary storage unit. Architecture of 8086/8088 Microprocessor: Description of various pins, configuring the 8086/8088 microprocessor for minimum and maximum mode systems, internal architecture of the 8086/8088 microprocessor, system clock, Bus cycle, Instruction execution sequence. Memory Interface of 8086/8088 Microprocessor: Address space and data organization, generating memory addresses hardware organization of memory address space, memory bus status code, memory control signals, read/write bus cycles, program and data storage memory, dynamic RAM system. Input/Output Interface of the 8086/8088 Microprocessor: I/O interface, I/O address space and data transfer, I/O instructions, I/O bus cycles, Output ports, 8255A Programmable Peripheral Interface (PPI), Serial communication interface (USART and UART) – the RS- 232 C interface. Interrupt Interface of 8086/8088 Microprocessor, Types of Interrupt, Interrupt Vector Table (IVT).

**Detailed Course Contents: Available at**
http://gndu.ac.in/syllabus/201819/ELECENG/MSC%20COMPUTER%20SCIENCE%202018-19.pdf

**Objectives of the Course:**
Students will
- try to learn the basics of the processors and internal hardware of 16 bit and 32 bit microprocessors.
- Get knowledge of General Architecture of Microcomputer System
- Will have a clear idea how data is stored and in which format.
- Will have a wide vision about CPU busses and various input-output modes.

**Program Learning Outcomes:**

(Knowledge and Understanding, Intellectual Skills, practical Skills, Transferable skills).

### C. **Knowledge and Understanding:**
Students will be able
- Understand and devise techniques for faster execution of instructions, improve speed of operations and enhance performance of microprocessors.
- Distinguish between RISC and CISC processors.
- Understand multi core processor and its advantages.

### B. **Intellectual( Cognitive/ Analytical) Skills:**
Students will be able to
- Design system using memory chips and peripheral chips for 16 bit 8086 microprocessor
- Negotiate advanced technologies.
- Formulate and implement IT systems.

### C. **Practical Skills**
Students will able to:
- Write programs to run on 8086 microprocessor based systems.
- Design of the hardware systems.

### D. **Transferable Skills :**
After completing this course, the students are expected to be able to translate and convert the learned knowledge into the design of a simple microprocessor-based device. In long run, the students may use the gained knowledge and skill from this course in designing industrial products that require microprocessors.

### **What will be the teaching methods:**

- Lectures : six per week
- Student Seminars: two per week

- Assignments : The students will be asked to read the textbook in advance and write articles on given topics
- Powerpoint Presentations
- Participatory and Experiential Learning
- Quiz

## Program Learning Outcomes:

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (Unit wise) 2.Student Seminars | **40%** | **After Each Unit** |
| | | **Every week** |
| **End of Semester Exam** | **40%** | **Last week of April onwards** |

## Teaching Outline:

| Unit | Teaching Dates |
|---|---|
| I | 11<sup>th</sup> January 10<sup>th</sup> February |
| II | 11<sup>th</sup> February to 5<sup>th</sup> March |
| III | 6<sup>th</sup> March to 15<sup>th</sup> April |
| Revision | Till 30<sup>th</sup> April |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## Text Book(s):

Walter Triebel: The 8086 Microprocessor – Architecture, Software and Interfacing Techniques, PHI, Delhi.

## References:

4. Douglas V. Hall: Microprocessors and Interfacing – Programming and Hardware, Tata McGraw Hill Publishing Company Ltd., New Delhi

5. Peter Abel: IBM PC Assembly Language and Programming, PHI, Delhi.

- Assignments : The students will be asked to read the textbook in advance and write articles on given topics
- Powerpoint Presentations
- Participatory and Experiential Learning
- Quiz

## Program Learning Outcomes:

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (Unit wise) 2.Student Seminars | **40%** | **After Each Unit** |
| | | **Every week** |
| **End of Semester Exam** | **40%** | **Last week of April onwards** |

## Teaching Outline:

| Unit | Teaching Dates |
|---|---|
| I | 11th January 10th February |
| II | 11th February to 5th March |
| III | 6th March to 15th April |
| Revision | Till 30th April |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## Text Book(s):

Walter Triebel: The 8086 Microprocessor – Architecture, Software and Interfacing Techniques, PHI, Delhi.

## References:

4. Douglas V. Hall: Microprocessors and Interfacing – Programming and Hardware, Tata McGraw Hill Publishing Company Ltd., New Delhi

5. Peter Abel: IBM PC Assembly Language and Programming, PHI, Delhi.

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: Object Oriented Modeling, Analysis and Design

**Programme : M.Sc(CS)**
**Semester: IV**
**Name of the Teacher: Ratnakar Mann**
**Availability Timings: 9.00 AM to 3.30 PM**
**E-mail:** ratnakarcomputerlkc@gmail.com

## Objectives of the Course :

This course is aimed at acquainting students with the new way of thinking about development of software using OMT. The course aims to equip students with the importance, usage and implementation of all the constructs encountered while developing a good object oriented software.

## Course Content:

The course begins with the introduction to object oriented methodology for developing high quality and low cost software. It discusses the pros of using OMT over the traditional procedural method of software development. The entire process of analysis, design and implementation is elaborately discussed in the course. The main thrust area of course is construction of three models namely Object Model, Dynamic Model, Functional Model.

## Detailed Course Contents: Available at  www.gndu.ac.in

## What will be the teaching methods:
  - Lectures : six per week
  - Student Seminars: two per week
  - Assignments : The students will be asked to submit assignment after each unit is completed in the class.
  - Powerpoint Presentations
  - Providing  e-notes
  - Providing  information to students on similar courses available on swayam and nptel
  - Quiz

## Program Learning Outcomes:

**Students will learn how to :**

- **Analyze a problem statement.**
- **Construct models for the problem in hand.**
- **Prepare a System Design**
- **Prepare Object Design**
- **Write clean code in Programming Language**
- **Effectively develop a high quality Software.**

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (Unit wise) 2.Student Seminars 3. In House Exams | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **Last Week of March** |
| **End of Semester Exam** | **40%** | **Last week of April onwards** |

**Teaching Outline:**

| Unit | Topics | Teaching Dates |
|---|---|---|
| I | - Object Orientation, - OMT Methodology, Object and Class, - Link and Association, - Generalization, - Aggregation - Multiple Inheritance, | 11 Jan – 2 Feb 2019 |

| | | | |
|---|---|---|---|
| | • Packages | | |
| II | • Object Meta Modeling,<br>• Metadata and Metamodels,<br>• Functional Modeling Pseudocode with the Object navigation Notation,<br>• ONN Constructs, Combining ONN Constructs. | 4Feb - 23Feb | |
| III | • Analysis<br>• Object Model,<br>• Data Dictionary, Dynamic Model, Functional Model | 25 Feb – 16 March | |
| IV | • Design<br>• Devising an Architecture, Database Management Paradigm,<br>• Object Model, Elaborating the functional Model, Evaluating the Quality of Design Model. | 18 March – 10 April | |
| Revision | | 10 April onwards | |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## Text Book(s):

Object Oriented Modeling and Design By Michael Blaha, William Premerlani, and Prentice Hall.

**References :**

4. Object-Oriented Analysis and Design with Applications, by Booch
5. Designing Object-Oriented Software by Rebecca
6. Unified Object-Oriented Modeling, Analysis & Design  by **Sanchari Saha**

# CURRICULUM PLANNING AND IMPLEMENTATION
## Course Name: B Design Multimedia (BDM)

**Programme : Multimedia & its Applications**
**Semester: II**
**Name of the Teacher: Vinay Shweta**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  Vinayshwetacomputerlkc@gmail.com**

## Objectives of the Course:
The main **objective of the course** is to prepare students to become **multimedia** designers and engineers in **their** areas of expertise. **Multimedia** systems combine a variety of information sources, such as voice, graphics, animation, images, audio, and full motion video, into a wide range of **applications.**

## Course Content:
The course provides an introduction about

- In first section Multimedia- Introduction, Data and file formats, standards,Conversion of different media types, criteria for designing multimedia presentation.
- Second Section Multi-media Building Blocks- Text, Graphics, Video capturing, sound Capturing, editing, Basic design Principle.
- Third Section Advertisement and Computers, Defination, Concepts,Types, Principles, Objectives, Role of computers in advertisement. Animation, applications of softwares.
- **F**ourth section Tools of Public Relations- Defination, Concept and role of public relations in public and corporate sector, tools of public relations including internet, Image building and public relation campaigns.
  **Detailed Course Contents: Available at**  www.gndu.ac.in

## What will be the teaching methods:
- Lectures : Six days per week of practical practices
- Discussion after completion of topic

## Program Learning Outcomes:
Knowledge & Understanding

- Conversion of different media types, criteria for designing multimedia presentation.

- Text, Graphics, Video capturing, sound Capturing, editing, Basic design Principle Creating Clay Animation.

- Role of computers in advertisement. Animation, applications of softwares.
- Concept and role of public relations in public and corporate sector.

- tools of public relations including internet, Image building and public relation campaigns.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| Continuous Internal Evaluation(CIE) | | |
| 1.Class Tests (Unit wise) | 40% | After Each Unit |
| 2.Assignments | | Every week |
| 3. Discussion | 40% | After Each Unit |
| End of Semester Exam | 40% | Last week of April |

### Teaching Outline:

| Unit/Section | Teaching Dates |
|---|---|
| I | 11$^{th}$ Jan. to 259$^{th}$ Jan. |
| II | 30$^{th}$ Jan. to 22$^{th}$ Feb. |
| III | 23$^{rd}$ Feb. to 18$^{th}$ March |
| IV | 19$^{th}$ March to 15$^{th}$ April |
| Practical Practice | Till Exams |

### Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

# CURRICULUM PLANNING AND IMPLEMENTATION

## Subject Name: Printing Process and Techniques

**Programme : B.Voc Printing Technology**

**Semester: II**

**Name of the Teacher: Anupriya Sharma**

**Availability Timings: 9.00 AM to 3.00 PM**

**E-mail: anucomputerlkc@gmail.com**

**Objectives:**

- The primary goal is to prepare students for a successful professional career in the Printing Technology.
- To get good knowledge of printing process. During the course we can learn various types of printing process ,methods of surface prepration,color theory ,proofing techniques etc.
- Also you can learn differenttypes of new devices used in printing technology like image setter.

**Course Content**

- This course explains printing processes its types ,methods of surface prepration.abhishek
- The course also includes all basic means of printing material used in printing.

**Weekly 6 Lectures.**

**Planning and Implementation of the curriculum**

| Content/Topic Cover | Planned Date | Mode of Delivery |
|---|---|---|
| Printing process and their principles,advantages and disadvantages and comparative study. | Jan 15,2020 | Lecture using Black Board, Chalk and notes. |
| Methods of surface prepartion | Jan 21,2020 | Lecture using Black Board, Chalk |
| color theory and measurement of colour. | Jan 28, 2020 | Lecture using PPT |
| Imagesetter and its types, continous and halftone.Proofing techniques | Feb 2, 2020 | Lecture using Black Board, Chalk |
| Print finishing:materials and tools used in binding. | Feb11 , 2020 | Lecture using Black Board, Chalk |

| | | And PPT through Projector |
|---|---|---|
| Types of binding. | Feb 15, 2020 | Lecture using Black Board, Chalk |
| various finishing processes and types | Feb 25, 2020 | Lecture using Black Board, Chalk |
| printing material and its handling introduction | March 4, 2020 | Lecture using Black Board, Chalk |
| properties of aluminium and zinc. | March 7, 2020 | Lecture using Black Board, Chalk |
| properties of nickel chromium | March 11, 2020 | Lecture using Black Board, Chalk |
| photographic material and its uses | March 22, 2020 | Lecture using Black Board, Chalk |
| light sensitive material and relationship | April 6, 2020 | Lecture using Black Board, Chalk |
| Handling and storage of paper | April 10, 2020 | Lecture using Black Board, Chalk |
| precautions in handling,storage and printing substrate | April 12,2020 | Lecture using Black Board, Chalk |
| | | |

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: Bachelor of Vocation (B. Voc) (Printing Technology)

**Programme: Corel Draw**
**Semester: II**
**Name of the Teacher: Retinder Kaur**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  retindercomputerlkc@gmail.com**

## Objectives of the Course:
This course aims at learning of Corel draw tool in which works on designs. Corel draw is designing based software in which we designs logos, pamphlets, brochures, visiting cards etc.

## Course Content:
The course provides an introduction about
Customizing Desktop, Drawing Rectangles, squares, ellipses, circles, curves , Manipulating objects, arranging objects , Draw & edit free hand curves , Using Text, Bezier Curves, bitmap images , Creating special objects , Managing Layers & pages , Importing &exporting objects , Using Drawing & Painting tools, eyedropper &clone tools, Retouching tools , Setting Print options & printing files , Creating– business cards, pamphlets, banners, news papers, books. Shortcut keys in Corel draw.

## Detailed Course Contents: Available at  www.gndu.ac.in
## What will be the teaching methods:
- Lectures : Six per week
- Assignments : Weekly Assignments
- Practical practice

## Program Learning Outcomes:
Practical Assignments:
1. Design two Business cards
2. Design two Pamphlets
3. Design two Banners
4. Design two News papers
5. Design two front pages of book

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)**<br><br>1.Class Tests (Unit wise)<br><br>2.Assignments<br><br>3. Discussion | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **After Each Unit** |
| **End of Semester Exam** | **40%** | **Last week of April** |

## Teaching Outline:

| Unit | Teaching Dates |
|---|---|
| **I** (Intro. of tools) | **15th Jan. to 24th Jan.** |
| **II**(Business cards) | **25th Jan. to 8th Feb.** |
| **III**(Pamphlets) | **10th Feb. to 22nd Feb.** |
| **IV**(Banners) | **24th Feb. to 7th March.** |
| **V**(News papers) | **9th March to 23rd March** |
| **VI**(Books) | **24th March to 10th April** |
| **Practical Practice** | **Till Exams** |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## E- resources

https://www.*product.corel.com/help/CorelDRAW/540229932/Main/EN/.../CorelDRAW-X7.pdf*

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: Adobe Pagemaker

**Programme : B.Voc(Printing Technology)**
**Semester: II**
**Name of the Teacher: Onkar**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  onkar.computer.lkc@gmail.com**

## Objectives of the Course:

This course aims at teaching students about the software's working area, tools & menus. Understanding about the creating frames, threading & un-threading text, Placing, Sizing, aligning Graphics, Cropping Graphics. Introduction to Using layers

## Course Content:

Introduction to Creating Frames, Threading and Unthreading Text. Threading additional Text, Threading Text to Different Page, Unthreading Text Blocks, Rethreading Text. Developing the Long Documents

## Detailed Course Contents: Available at:  www.gndu.ac.in

## What will be the teaching methods:

- Lectures : six per week
- Student Seminars: 1 per week
- Assignments: The students will be asked to study the notes provided & class test will be conducted.
- PowerPoint Presentations

## Program Learning Outcomes:

## Learning Outcomes:

### D. Knowledge and Understanding):

Students will

- Learn about the software.
- Learn about Components of the Page Maker Window.
- Learn about the Correcting Misspelled Words.

- Learn about the change Feature of software & its uses.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)**<br><br>1.Class Tests (section wise)<br><br>2.Student Seminars<br><br>3. In House Exams | | |
| | 40% | After Each Section |
| | | Every week |
| | 40% | Last Week of September |
| **End of Semester Exam** | 40% | Last week of November onwards |

## Teaching Outline:

| Section | Teaching Dates |
|---|---|
| I | 15 January to 15 February |
| II | 17 February to  6 March |
| III | 7 March to 28 March |
| IV | 30 March to 20 April |
| Revision | Till Exams |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

# CURRICULUM PLANNING AND IMPLEMENTATION
## Course Name: Printing Process

**Programme : B.Voc (Printing Technology)**
**Semester: II**
**Name of the Teacher: Bharat Sharma**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  bharat.computerlkc@gmail.com**

## Objectives of the Course:

This course aims at teaching students about the process of tools & equipments used in letterpress. Discuss about creating the different types of design. Schematic diagram of different letter process Printing machines Study of Running & Printing faults on press machine. Different types of industrial standard Size.

## Course Content:

It Introduction, Identification of different tools & equipments used in letterpress. Schematic diagram of different printing processer. Printing of line & half tone block in single & multi color

## Detailed Course Contents: Available at:  www.gndu.ac.in

## What will be the teaching methods:

- Lectures : six per week
- Student Seminars: 1 per week
- Assignments: The students will be asked to study the notes provided & class test will be conducted.
- PowerPoint Presentations

## Program Learning Outcomes:

## Learning Outcomes:

### E. Knowledge and Understanding):
Students will
- Learn about the creating various designs.
- Learn about the Different types of industrial standard Size of designs.
- Learn about the letterhead, cover page & greeting card.
- Learn about Planning for irregular images.
- Learn about Repeatability tests on Printing frame

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (section wise) 2.Student Seminars 3. In House Exams | | |
| | **40%** | **After Each Section** |
| | | **Every week** |
| | **40%** | **Last Week of September** |
| **End of Semester Exam** | **40%** | **Last week of November onwards** |

**Teaching Outline:**

| Section | Teaching Dates |
|---|---|
| **I** | **15 January to 18 February** |
| **II** | **19 February to 4 March** |
| **III** | **5 March to 28 March** |
| **IV** | **30 March to 20 April** |
| **Revision** | **Till Exams** |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: Drug Abuse: Problem, Management and Prevention

**Programme: BCA, B.Sc. IT, B.Voc. SD, B.Voc. PT, BAJMC, BDMM**
**Semester: II**
**Name of the Teacher: ShefaliTaneja**
**Availability Timings: 9.00 AM to 3.30 PM**
**E-mail:  shefalilkc@gmail.com**

## Objectives of the Course:

This course aims at acquainting students with management and prevention of drug abuse. It aims to teach students various preventive strategies and controlling techniques of drug abuse.

## Course Content:

The course provides an introduction to various preventive and controlling techniques of drug abuse. It focuses on the role of family, school, media and legislation in prevention of drug abuse. The course examines these strategies and aims to teach students on how to practically use these techniques that help in dealing with drug addiction/abuse.

## Detailed Course Contents: Available at www.gndu.ac.in

## What will be the teaching methods:

- Lectures : three per week
- Student Seminars: one per week
- Two assignments will be given in a month based on the topics covered
- Power-point Presentations
- Participatory and Experiential Learning

## Program Learning Outcomes:

1. Students will understand about various preventive strategies of drug abuse.
2. They will have deeper knowledge of how to control drug abuse.
3. Students will be able to identify which technique is best suitable for each and every person who abuse drugs.
4. They will understand about how family plays an important role in prevention of drug abuse.

5. Students will have knowledge about counseling and how it can be provided in schools to prevent drug abuse.
6. Apart from these preventive measures, students will gain knowledge about how media can play an important role in controlling drug abuse.
7. The course will help in spreading awareness about how legislation can play a vital role in controlling drug abuse.
8. Students will be able to implement these strategies in real life and help those who abuse drugs.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)**<br><br>1.Class Tests (Unit wise)<br><br>2.Student Seminars<br><br>3. In House Exams | | |
| | 40% | After Each Unit |
| | | Every week |
| | 40% | Last Week of September |
| End of Semester Exam | 40% | Last week of November onwards |

**Teaching Outline:**

| Unit | Teaching Dates |
|---|---|
| I | 11 January to 05 February |
| II | 06 February to 29 February |
| III | 02 March to 25 March |
| IV | 26 March to 18 April |
| Revision | Till 30 April |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

**Text Book(s):**

Kishore, K. (2018). Drug Abuse: Problem, Management and Prevention. New Delhi: Modern Publishers.

## *References :*

1. Ahuja, Ram (2003), Social Problems in India, Rawat Publication, Jaipur.

2. Extent, Pattern and Trend of Drug Use in India, Ministry of Social Justice and Empowerment, Government of India, 2004.

3. Inciardi, J.A. 1981. The Drug Crime Connection. Beverly Hills: Sage Publications.

4. Kapoor. T. (1985) Drug epidemic among Indian Youth, New Delhi: Mittal Pub.

5. Kessel, Neil and Henry Walton. 1982, Alcohalism.Harmond Worth: Penguin Books.

6. Modi, Ishwar and Modi, Shalini (1997) Drugs: Addiction and Prevention, Jaipur: Rawat Publication.

7. National Household Survey of Alcohol and Drug abuse. (2003) New Delhi, Clinical Epidemiological Unit, All India Institute of Medical Sciences, 2004.

8. Ross Coomber and Others. 2013, Key Concept in Drugs and Society. New Delhi: Sage Publications.

9. Sain, Bhim 1991, Drug Addiction Alcoholism, Smoking obscenity New Delhi: Mittal Publications.

10. Sandhu, Ranvinder Singh, 2009, Drug Addiction in Punjab: A Sociological Study. Amritsar: Guru Nanak Dev University.

11. Singh, Chandra Paul 2000. Alcohol and Dependence among Industrial Workers: Delhi: Shipra.

12. Sussman, S and Ames, S.L. (2008). Drug Abuse: Concepts, Prevention and Cessation, Cambridge University Press.

## E- resources

- Verma, P.S. 2017, "Punjab's Drug Problem: Contours and Characterstics", Economic and Political Weekly, Vol. LII, No. 3, P.P. 40-43.

- World Drug Report 2016, United Nations office of Drug and Crime.

- World Drug Report 2017, United Nations office of Drug and Crime.

COURSE NAME- COMMUNICATION SKILLS

PROGRAMME-,B.VOC. (P.T.)

SEMESTER-II


**OBJECTIVES OF THE COURSE:** The course is designed to help the students hone their communication skills in order to exchange the information and ideas, whether written or oral. The aim of the course is to educate the students about successful businesses and for building relationships by influencing interactions either positively or negatively. It further acquaints the students about the patterns acquired in English pronunciation, with the purpose of increasing the knowledge about phonetics and phonology and to improve the pronunciation and their listening ability.


**COURSE CONTENT:**

THEORY-The course is designed to provide a detailed study about the integral skills of a business communication. It includes a thorough knowledge and guidelines about the listening skills as well as the speaking and conversational skills. It includes the phonetic transcription and the placement of word stress.

PRACTICAL/ORAL TESTING-It is conducted by an external examiner with the help of an internal examiner. It involves the oral presentation by the student of his/her own choice with either an audio or a visual aid. Group discussion comprising a few students is also included.


**DETAILED COURSE CONTENT**: Available at www.gndu.ac.in


**TEACHING AND LEARNING ACTIVITIES:**

- In depth knowledge of the meaning, benefits, levels, barriers and tips for an effective business communication by studying listening skills as well as the speaking and conversational skills.

- Open ended discussion and presentations by students.

- Case studies offered as self-learning modules

- Quiz

## LEARNING OUTCOMES:

At the end of the course the student should be able to-

- Enumerate listening as well as speaking and conversational skills in a business communication.

- Define guidelines and etiquettes in either making or receiving telephone calls for an effective business communication.

- Cultivate the skill of Note-Taking and define its importance.

- Transcribe the words in IPA symbols.

- Mark word stress in the words of English as per the rules.

- Prepare and present oral presentation for the practical/oral testing.

- Impressively participate in a group discussion.

- Have a good command over the English language keeping in mind the tone and gestures.

## ASSESSMENT:

- Students are expected to submit an audio or visual aid so that the teacher can assess and guide for the speaking and conversational skills.

- Students are expected to be present for the class tests to be held fortnightly.

- Students are expected to complete the worksheets on transcription and word stress as provided by the teacher.

- Students are expected to participate in classroom activities for enhancing the knowledge of the subject.

- Students that fail to obtain at least 40% marks in the House Exams will not be permitted to take the final examinations.

## TEACHING OUTLINE:

To obtain a comprehensive knowledge and guidance, the student will need to allot sufficient time outside of class to do the practice and reading and also, be regular and on time for all lectures, discussions and activities.

| | |
|---|---|
| Jan 11 to Feb 9 | Listening skills |
| Feb 10 to March 12 | Speaking and Conversational skills |
| March 13 to March 22 | Phonetics/Transcription, Word stress |
| March 24 to April 4 | Note Taking |
| April 5 to April 10 | Oral presentation, Group discussion |
| April 13 to April 17 | Revision |

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: Screen Printing and Gravure

**Programme : B.Voc (Printing Technology)**
**Semester: IV**
**Name of the Teacher: Bharat Sharma**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  bharat.computerlkc@gmail.com**

## Objectives of the Course:

This course aims at teaching students about the process of Screen Printing & gravure. Material used in Screen printing. How these process working. Prints on various material. Types of Stencil printing.

## Course Content:

Its Introduction, its printing on various fabrics. Difference between manual & automatic Screen printing method. Halftone process in process. Choosing different printing process. Dying Equipment used in screen printing method. Process used in stencil Printing.

## Detailed Course Contents: Available at:  www.gndu.ac.in

## What will be the teaching methods:

- Lectures : six per week
- Student Seminars: 1 per week
- Assignments: The students will be asked to study the notes provided & class test will be conducted.
- PowerPoint Presentations

## Program Learning Outcomes:

## Learning Outcomes:

### F. Knowledge and Understanding):

Students will

- Learn about the Screen Printing & Gravure techniques.
- Learn about its working on different types of fabrics.
- Learn about the automatic printing process.
- Learn about halftone preparation in Screen Printing.
- Learn about cartoon folding process in gravure.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** | | |
| 1.Class Tests (section wise) | **40%** | **After Each Section** |
| 2.Student Seminars | | **Every week** |
| 3. In House Exams | **40%** | **Last Week of September** |
| **End of Semester Exam** | **40%** | **Last week of November onwards** |

## Teaching Outline:

| Section | Teaching Dates |
|---|---|
| **I** | **15 January to 18 February** |
| **II** | **19 February to 4 March** |
| **III** | **5 March to 28 March** |
| **IV** | **30 March to 20 April** |
| **Revision** | **Till Exams** |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## *References:*

1. Printing Technology by Adams, Faux, Rieber
2. Screen Printing Preview by Babette Magee
3. Screen Printing by John Stephens

# CURRICULUM PLANNING AND IMPLEMENTATION
## Course Name: Digital Pre-Press

**Programme: B.Voc P.T.**
**Semester: IV**
**Name of the Teacher: Harpreet Singh**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  harpreet.computerlkc@gmail.com**

## Objectives of the Course:

The main objective of this course is to help the students to get detailed knowledge about how Pre-Press works in digital form. Digital Pre-Press is the This term refers to the process of creating a print layout and performing all the steps that lead to the final print project. A digital prepress machine accepts information electronically and transforms the data onto a printing plate which is ultimately used to transfer your files onto paper while on press.. Having deep and proper knowledge about digital pre-press can help the students to get deep into printing field. Different kind of printing process, photography techniques are also covered in this course.

## Course Content:

The content of this course is very interesting, students get to learn all the important topics like:

- **Digital Screening process-** RT screening, super cells, output options, dot shape tonal value influence etc.

- **Structure of Digital Printed Product-** Technological capabilities and work  flow, Digital description of printed page and more.

- **Digital Photography-** Focal length of lenses, aspect ratio, digital photography and color management and more

- **Digitalizing originals-** scanner design and models, page make up and sheet assembly, imposition sheet and imposition layout etc.

- **Color management-** definition, image reproduction process, profile & color management, digital color proofing and its limitations.

These are the main topics which will be covered in this course. All these are main topics, which are further divided into many different subtopics.

**Detailed Course Contents: Available at:** www.gndu.ac.in

**What will be the teaching methods:**
- Lectures : six per week
- Assignments: Notes will be provided to the students (Hardcopy & Soft copy)
- Class test
- PowerPoint Presentations

**Program Learning Outcomes:**

**G. Knowledge and Understanding):**

Students will
- Learn different types of printing techniques
- Get knowledge about how Digital Pre-press works in a flow
- Understand what is digital photography
- Learn the management of color in different processes
- then be fully aware of this field and this will help  them to settle in the printing industry.

| Modes of Assessment | Minimum  Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (section wise) 2.Student Seminars 3. In House Exams | | |
| | **40%** | **After Each Section** |
| | | **Every week** |
| | **40%** | **Last Week of September** |
| **End of Semester Exam** | **40%** | **Last week of November onwards** |

**Teaching Outline:**

| Section | Teaching Dates |
|---------|----------------|
| I | 15 January to 30 January |
| II | 1 February to 24 February |
| III | 25 February to 11March |
| IV | 13 March to 27 March |
| V | 28 March to 10 April |
| Revision | Till Exams |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

*References:*

- Digital prepress technology, by Smyth, S., Leatherhead

- Hand book of Print media by H. Kippan, Heildberg.

- Digital Commercial Printing, by Smyth, S., Leatherhead

- The manual of Photography.

**E-Resources:**

- https://moquinpress.com/wp-content/uploads/2014/06/Prepress.pdf

- http://www.candcprinting.com/upload/file/IntroductionofPrepressWorkflow200804.pdf

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**CURRICULUM PLANNING AND IMPLEMENTATION**

**Course Name: Data Communication and Networks**

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**Programme : B.VOC(Printing Technology)**
**Semester: IV**
**Name of the Teacher: Pallavi Sood**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  pallavicomputerlkc@gmail.com**

**Objectives of the Course:**
This course aims to an understanding of communication of data, transmission of data signals, network security and privacy, various multiplexing and switching elements. This course also aims to an understanding of various models used in networking and how to secure data using cryptography.

**Course Content:**
The course provides an introduction of data communication, networks, internet, WWW. Intranet and extranet, components of a network, network types, network topologies, transmission media, OSI model, TCP/IP model, introduction to analog and digital transmission, multiplexing and switching elements, network security and privacy, cryptography, firewalls, network services, virus and related threats, introduction to hacking, denial of service attacks.

**Detailed Course Contents: Available at**  www.gndu.ac.in

**The Teaching methods used:**
- Lectures : six per week
- Student Seminars: two per week
- Assignments : The students will be asked to read the textbook in advance and write articles on given topics
- PowerPoint Presentations

**Program Learning Outcomes:**
**Knowledge and Understanding:**
- Students will know what is network, its types.
- Students will learn about the different topologies used in network.
- Students will understand different protocols used in internet.
- Students will understand and be able to describe the differences between intranet, extranet and internet.
- Students will understand about various multiplexing and switching techniques used in networks.
- Students will learn about various services provided by network.

**Teaching Outline:**

| Topic | Teaching Dates |
|---|---|
| **Introduction to Data Communication, Networks, Network Types and Topologies, Components of Network, Uses of Computer Networks** | **11 January 2020 - 21 January 2020** |
| **Internet, WWW, Intranet and extranet** | **22 January 2020 - 29 January 2020** |
| **Transmission Media** | **29 January 2020 – 5 February 2020** |
| **OSI Model, TCP/IP Model** | **6 February 2020- 13 February 2020** |
| **Introduction to Analog and Digital Transmission** | **14 February 2020 - 21 February 2020** |
| **Multiplexing** | **22 February 2020 – 1 March 2020** |
| **Switching** | **2 March 2020 – 9 March 2020** |
| **Introduction to Cryptography, Firewalls** | **10 March 2020 – 17 March 2020** |
| **Network Services** | **18 March 2020 – 25 March 2020** |
| **Viruses & related threats, denial of service attacks** | **26 March 2020- 2 April 2020** |
| **Introduction to Hacking, Security Policies & Plans, Strategy for a Secure Network** | **3 April 2020 – 10 April 2020** |
| **Revision** | **Till 30 April 2020** |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

*References:*

6. Tanenbaum, A.S.:Computer Networks, Prentice Hal,192, 3rd Edition.
7. Behrouz A. Forouzan, Data Comminication and Network IInd Edition Update, TATA McGraw-Hill.
8. Stalings, Willian: Daa Computer Communication, Macmilan Publishing Co.
9. Cryptography & Network Security", Behrouz A. Forouzan, IV Edition, TATA McGraw-Hill.

**E- resources**

- https://www.kullabs.com/classes/subjects/units/lessons/notes/note-detail/1118

- http://ecomputernotes.com/computernetworkingnotes/communication-networks/describe-the-different-transmission-media

- http://ecomputernotes.com/computernetworkingnotes/multiple-access/multiplexing-what-is-multiplexing-explain-its-multiplexing-methods

- https://www.cs.virginia.edu/~cs757/slidespdf/757-01-CommNetworks.pdf

- http://www.uky.edu/~dsianita/390/firewall1.pdf

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: Screen Printing and Offset Platemaking

**Programme : B.Voc (Printing Technology)**
**Semester: IV**
**Name of the Teacher: Bharat Sharma**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  bharat.computerlkc@gmail.com**

## Objectives of the Course:

This course aims at teaching students about the process of Screen Printing & offset plate making. Screen stretching techniques. Printing on various substrates – wood, leather, textile, acrylic, metal, paper & paper products, plastic. Exposure optimization and standardization

## Course Content:

It Introduction, its printing on various fabrics. Types of planning and layout preparation. Planning for irregular images. Study of exposing processing and punching systems. Exposure optimization and standardization. Wipe–on plate processing and standardization

## Detailed Course Contents: Available at:  www.gndu.ac.in

## What will be the teaching methods:

- Lectures : six per week
- Student Seminars: 1 per week
- Assignments: The students will be asked to study the notes provided & class test will be conducted.
- PowerPoint Presentations

## Program Learning Outcomes:

## Learning Outcomes:

### H. Knowledge and Understanding):

Students will
- Learn about the Study of various types of screen materials.
- Learn about its Screen stretching techniques.
- Learn about the Sheet work film assembly.

- Learn about Planning for irregular images.
- Learn about Repeatability tests on Printing down frame

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (section wise) 2.Student Seminars 3. In House Exams | | |
| | 40% | After Each Section |
| | | Every week |
| | 40% | Last Week of September |
| **End of Semester Exam** | 40% | Last week of November onwards |

**Teaching Outline:**

| Section | Teaching Dates |
|---|---|
| I | 15 January to 18 February |
| II | 19 February to  4 March |
| III | 5 March to 28 March |
| IV | 30 March to 20 April |
| Revision | Till Exams |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

# CURRICULUM PLANNING AND IMPLEMENTATION
## Course Name: Adobe Indesign

**Programme : B.Voc(Printing Technology)**
**Semester: IV**
**Name of the Teacher: Onkar**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  onkar.computer.lkc@gmail.com**

## Objectives of the Course:

This course aims at teaching students about the software's working area, tools & menus. Layers, using for different types of color pallets, RGB Mode, CMYK mode using for raster/vector, manipulate the different types of layout and standards.

## Course Content:

Introduction to Adobe In design; Tools, Navigator Panel, multimedia tools, Layers, Selections Tools, Different types of Selection Manipulation tools, Curves, Create a basic shapes, Blending Model and Auto contrast. Using for different types of color pallets, RGB Mode, CMYK mode.

## Detailed Course Contents: Available at:  www.gndu.ac.in

## What will be the teaching methods:

- Lectures : six per week
- Student Seminars: 1 per week
- Assignments: The students will be asked to study the notes provided & class test will be conducted.
- PowerPoint Presentations

## Program Learning Outcomes:

## Learning Outcomes:

### I.  Knowledge and Understanding):

Students will

- Learn about the software.
- Learn about Components of the In design software.

- Learn about the using of different types of color pallets.
- Learn about the how to manipulate the different types of layout and standards.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| Continuous Internal Evaluation(CIE)<br><br>1.Class Tests (section wise)<br><br>2.Student Seminars<br><br>3. In House Exams | | |
| | 40% | After Each Section |
| | | Every week |
| | 40% | Last Week of September |
| End of Semester Exam | 40% | Last week of November onwards |

**Teaching Outline:**

| Section | Teaching Dates |
|---|---|
| I | 15 January to 15 February |
| II | 17 February to 6 March |
| III | 7 March to 28 March |
| IV | 30 March to 20 April |
| Revision | Till Exams |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

<h1 style="text-align:center">CURRICULUM PLANNING AND IMPLEMENTATION</h1>

<h2 style="text-align:center">Course Name: Internet Applications</h2>

**Programme : BVoc (S.D.)**
**Semester: II**
**Name of the Teacher: Jaspreet Kaur Saini**
**Availability Timings: 9.00 AM to 3.30 PM**
**E-mail:  jassainicomputerlkc@gmail.com**

## Objectives of the Course:

The Internet has many important applications. Of the various services available via the Internet, the three most important are e-mail, web browsing, and peer-to-peer services. E-mail, also known as electronic mail, is the most widely used and successful of Internet applications. The Internet has many important applications .E-mail, also known as electronic mail, is the most widely used and successful of Internet applications. Web browsing is the application that had the greatest influence in dramatic expansion of the Internet and its use during the 1990s.

## Course Content:

The course provides an introduction to internet. Various services offered by the ineternet. Gives knowledge about internet service provider. Concept of email and its structure. Various protocols are also examined Like FTP, Gopher.It also elaborates world wide web. Details about intranet and extranet. Various search engines and the working of search engines.Basic concepts of news server and connecting to a news server. Also study about how news groups are managed

## Detailed Course Contents: Available at  www.gndu.ac.in

## What will be the teaching methods:

- Lectures : six per week
- Student Seminars: two per week
- Assignments : The students will be asked to read the textbook in advance and write articles on given topics
- Powerpoint Presentations
- Participatory and Experiential Learning

- Quiz

## Program Learning Outcomes:

1. Students will come to know about the internet and its working
2. Internet addressing and IP addresses
3. Can explain what is email, working and structure of email.
4. Come to know about www and its working.
5. Differences between intranet and extranet and what are their applications
6. Working of various search engines is to studied and difference between between search engine and web directory.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (Unit wise) 2.Student Seminars 3. In House Exams | | |
| | 40% | After Each Unit |
| | | Every week |
| | 40% | Last Week of September |
| **End of Semester Exam** | 40% | Last week of November onwards |

## Teaching Outline:

| Unit | Teaching Dates |
|---|---|
| I | 13 Jan to 4 Feb |
| II | 5 Feb to 25 Feb |
| III | 26 Feb to 20 Mar |
| IV | 21 Mar to 15 April |
| Revision | Till 30 April |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

**<u>References</u>**

1. Internet and its Applications by Ackerman.
 2.Internet – The Complete Reference

# CURRICULUM PLANNING AND IMPLEMENTATION
## Course Name: Internet Applications

**Programme : BVoc (S.D.)**
**Semester: II**
**Name of the Teacher: Jaspreet Kaur Saini**
**Availability Timings: 9.00 AM to 3.30 PM**
**E-mail:  jassainicomputerlkc@gmail.com**

## Objectives of the Course:

The Internet has many important applications. Of the various services available via the Internet, the three most important are e-mail, web browsing, and peer-to-peer services. E-mail, also known as electronic mail, is the most widely used and successful of Internet applications. The Internet has many important applications .E-mail, also known as electronic mail, is the most widely used and successful of Internet applications. Web browsing is the application that had the greatest influence in dramatic expansion of the Internet and its use during the 1990s.

## Course Content:

The course provides an introduction to internet. Various services offered by the ineternet. Gives knowledge about internet service provider. Concept of email and its structure. Various protocols are also examined Like FTP, Gopher.It also elaborates world wide web. Details about intranet and extranet. Various search engines and the working of search engines.Basic concepts of news server and connecting to a news server. Also study about how news groups are managed

## Detailed Course Contents: Available at  www.gndu.ac.in

## What will be the teaching methods:

- Lectures : six per week
- Student Seminars: two per week
- Assignments : The students will be asked to read the textbook in advance and write articles on given topics
- Powerpoint Presentations
- Participatory and Experiential Learning
- Quiz

## Program Learning Outcomes:

7. Students will come to know about the internet and its working
8. Internet addressing and IP addresses
9. Can explain what is email, working and structure of email.
10. Come to know about www and its working.
11. Differences between intranet and extranet and what are their applications
12. Working of various search engines is to studied and difference between between search engine and web directory.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (Unit wise) 2.Student Seminars 3. In House Exams | 40% | After Each Unit |
| | | Every week |
| | 40% | Last Week of September |
| **End of Semester Exam** | 40% | Last week of November onwards |

## Teaching Outline:

| Unit | Teaching Dates |
|---|---|
| I | 13 Jan to 4 Feb |
| II | 5 Feb to 25 Feb |
| III | 26 Feb to 20 Mar |
| IV | 21 Mar to 15 April |
| Revision | Till 30 April |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## References

1. Internet and its Applications by Ackerman.
 2.Internet – The Complete Reference

**CURRICULUM PLANNING AND IMPLEMENTATION**

**Course Name: Object Oriented Programming**

**Programme: B.Voc SD**
**Semester: II**
**Name of the Teacher: Karamjit Kaur**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  karamrandhawacomputerlkc@gmail.com**

## Objectives of the Course:

The course is designed to provide complete knowledge of Object Oriented Programming through C++ and to enhance the programming skills of the students by giving practical assignments to be done in labs.

## Course Content:

This course introduces the concepts of object-oriented programming to students with a background in the procedural paradigm. The course begins with a brief review of control structures and data types with emphasis on structured data types and array processing. It then moves on to introduce the object-oriented programming paradigm, focusing on the definition and use of classes along with the fundamentals of object-oriented design. Other topics include an overview of programming language principles, simple analysis of algorithms, basic searching and sorting techniques, event-driven programming and memory management.

## Detailed Course Contents: Available at www.gndu.ac.in

## What will be the teaching methods:

- Lectures : six per week
- Student Seminars: one per week
- Assignments: The students will be asked to write programs on different topics of subject in Laboratory and in Text books.
- PowerPoint Presentations
- Quiz

## Program Learning Outcomes:

On successful completion of this course students will be able to:

1. Explain the steps in creating an executable program for a computer, including the intermediate representations and their purpose.
2. Apply good programming style and understand the impact of style on developing and maintaining programs.

3. Explain the benefits of object oriented design and understand when it is an appropriate methodology to use.
4. Understand how to apply the major object-oriented concepts to implement object oriented programs in C++, encapsulation, inheritance and polymorphism
5. Design object oriented solutions for small systems involving multiple objects.
6. Implement, test and debug solutions in C++.
7. Illustrate the process of data file manipulations using C++

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** | | |
| | **35%** | **After Each Unit** |
| 1.Class Tests (Unit wise) | | **Every week** |
| 2.Student Seminars | | |
| | **35%** | **(As per college Schedule)** |
| 3. In House Exams | | |
| **End of Semester Exam** | **35%** | **May** |

## Teaching Outline:

| Section | Teaching Dates |
|---|---|
| **A** | **15 Jan to 10 Feb** |
| **B** | **12 Feb to 05 March** |
| **C** | **08 March to 22March** |
| **D** | **25 March to April 7** |
| **Revision** | **April 10 to April 20** |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## References:

1. Lafore R., Object Oriented Programming in C++, Waite Group.

2. E. Balagurusamy, Object Oriented Programming with C++, Tata McGraw Hill.

3. Bjarne Stroustrup, The C++ Programming Language, Addison Wesley. Herbert Schildt, the Complete Reference to C++ Language, McGraw Hill-Osborne.

### *E- Resources*

- *www.ddegjust.ac.in › studymaterial*

- https://en.wikibooks.org

- https://www.geeksforgeeks.org › object-oriented-programming-in-cpp

- https://www.tutorialspoint.com › cplusplus › cpp_object_oriented

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**CURRICULUM PLANNING AND IMPLEMENTATION**

**Course Name:B.VOC (SD)**

**Even Semester**

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**Programme : OBJECT ORIENTED PROGRAMMING (Paper-III)**
**Semester: II**
**Name of the Teacher: Jaskaranjit Kaur**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:** *jaskaranjitcomputerlkc@gmail.com*

## Objectives of the Course:

The main objective of this course is to provide students with the basic knowledge of object oriented programming language. C++ is one of the most basic programming languages. It introduces you to some of the key concepts like looping, function calls. It is easier to build up on your programming skills once your familiar with C. Start with that and then move to C++. It is like laying the foundation and then you can build up on it however you want.

## Course Content:

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### Section A

</div>

Object-Oriented Programming Concepts: Introduction, comparison between procedural programming paradigm and object-oriented programming paradigm, basic concepts of object- oriented programming, Data Types, Operators and Control Structures.

Standard Input/output : cin (>>) and cout (<<)

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### Section B

</div>

Functions: Defining and accessing function, passing arguments to functions, inline functions, static function and storage classes.

Classes and Objects: Specifying a class, creating class objects, accessing class members, access specifiers, static members, friend function, empty classes and nested classes.

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### Section C

</div>

Pointers and Dynamic Memory Management

Constructors and Destructors: Need for constructors and destructors, Default Constructor, Parameter Constructor and Copy Constructor, destructors, constructors and destructors with static members.

## Section D

Inheritance: Introduction, types of inheritance: Multiple, Multilevel, Hybrid and Hierarchical Inheritance, virtual base class, overriding member functions, Operator Overloading

Polymorphism: Concept of binding - early binding and late binding, function overloading, virtual functions, pure virtual functions, abstract classes, virtual destructors.

**Detailed Course Contents: Available at** www.gndu.ac.in

**What will be the teaching methods:**
- Lectures : six per week
- Assignments : The students will be asked to read the textbook and given notes and make detailed assignments of important topics.
- Discussion of syllabus topics with Examples

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (Unit wise) 2.Student Seminars 3. Discussion and doubt sessions | | |
| | 40% | After Each Unit |
| | | Every week |
| | 40% | Last Week of April |
| **End of Semester Exam** | **40%** | **Last Week of April** |

**Teaching Outline:**

| Section | Teaching Dates |
|---|---|
| I | 1st February to 9th February |
| II | 11th February to 28th February |
| III | 1st March to 18th March |
| IV | 19th March to 10th April |
| Revision | Till 15th April |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## Text Book(s):

1. *Lafore R., Object Oriented Programming in C++, Waite Group. 2. E. Balagurusamy, Object*

2. *Oriented Programming with C++, Tata McGraw Hill. 3. Bjarne Stroustrup, The C++*

3. *Programming Language, Addison Wesley. Herbert Schildt, The Complete Reference to C++ Language, McGraw Hill-Osborne*

**Course Name: Paper-V: Lab – II: Practical based on Data Structure**

**Programme : BVOC -SD**
**Semester: II**
**Name of the Teacher: ___NEETI PAL_____**
**Availability Timings: 9.00 AM to 3.30 PM**
**E-mail: neeticomputerlkc@gmail.com**

# Objectives of the Course:

The course is designed to develop skills to design and analyse simple linear and nonlinear data structures. It strengthen the ability to the students to identify and apply the suitable data structure for the given real world problem. It enables them to gain knowledge in practical applications of data structures .

- To write and execute programs in C++ to solve problems using data structures such as arrays, linked lists, stacks, queues, trees, graphs, hash tables and search trees.
- To write and execute write programs in C++ to implement various sorting and searching methods

# Course Content:

The course provides an introduction to basic data structure, arrays and its representation in memory, linked lists, stacks, queues, operations like insertion , deletion, updation performed on structures  trees –binary trees, graphs, BFS and DFS Traversal, various sorting techniques.

# Detailed Course Contents:  Practical based on Data Structure

Section–A

Basic Data Structure: Introduction to Data Structure, Common Operations on Data Structures,Algorithm Complexity, Big O Notation, Time – Space trade off between Algorithms.

Arrays: Define Array, Representing Arrays in Memory, Various Operations on Linear Arrays,Linear Search and Binary Search

Section–B

Linked Lists: Types of Linked Lists, Representing Linked Lists in Memory, Advantages of using Linked Lists over Arrays, Various Operations on Linked Lists.

Stacks: Description of STACK structure, Implementation of Stack using Arrays and Linked Lists, Push and Pop operations of Stack, Applications of Stacks – Converting Arithmetic expression from infix notation to polish and their subsequent evaluation

Section–C

Queues: Description of queue structure, Implementation of queue using arrays and linked lists,Insertion and Deletion operations in Circular Queue, description of priorities of queues,dequeues.

Trees: Description of Tree Structure and its Terminology, Binary Trees and Binary Search trees and their representation in Memory.

Section–D

Graphs: Description of Graph Structure, Implement Graphs in Memory using Adjacency Matrix and Adjacency list, BSF and DFS traversal of the graph

Sorting techniques: Sorting Algorithms, Bubble Sort, Insertion Sort, Selection Sort, Merge Sort

References:

1. Seymour Lipschutz, Theory and Problems of Data Structures, Schaum's Outline Series,McGraw Hill Company.

2. Tanenbaum, Data Structure using C.

**What will be the teaching methods:**
- Lectures : six per week

- Assignments : Students are asked to submit their lab assignment at the en of practical.
- Powerpoint Presentations

- Participatory and Experiential Learning
- Hand on sessions.

## **Program Learning Outcomes:**

**(Knowledge and Understanding, Intellectual Skills, practical Skills, Transferable skills).**

## **Learning Outcomes:**

At the end of this lab session, the student will be able

- to design and analyse the time and space efficiency of the data structure ·
- Be capable to identity the appropriate data structure for given problem ·
- Have practical knowledge on the applications of data structures
- Ability to identify the appropriate data structure for given problem.
-  Graduate able to design and analyse the time and space complexity of algorithm or program.
-  Ability to effectively use compilers includes library functions, debuggers and trouble shooting.

## **Teaching Outline:**

| Unit | Teaching Dates |
|------|----------------|
| I | 15 Jan to 05 Feb |
| II | 06 Feb to 15 March |
| III | 16 March to 10 April |
| IV | 11 April to 25 April |
| Revision | Till 30 April |

## **Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

*References:* **Text Book(s):**

1. Data structures, Algorithms and Applications in C++, S.Sahni, University Press (India) Pvt.Ltd, 2nd edition, Universities Press Orient Longman Pvt. Ltd.
2. Data structures and Algorithms in C++, Michael T.Goodrich, R.Tamassia and .Mount, Wiley student edition, John Wiley and Sons.
3. Data structures using C and C++, Langsam, Augenstein and Tanenbaum,   PHI.

**E- resources** :

- https://mrcet.com/pdf/Lab%20Manuals/CSE/DATA%20STRUCTURES%20USING.pdf
- https://www.iare.ac.in/sites/default/files/lab2/DS%20LAB%20MANUAL_0.pdf
- https://www.iare.ac.in/sites/default/files/lab1/IARE_DS_Lab_Manual.pdf

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: Drug Abuse: Problem, Management and Prevention

**Programme: BCA, B.Sc. IT, B.Voc. SD, B.Voc. PT, BAJMC, BDMM**
**Semester: II**
**Name of the Teacher: ShefaliTaneja**
**Availability Timings: 9.00 AM to 3.30 PM**
**E-mail:  shefalilkc@gmail.com**

## Objectives of the Course:

This course aims at acquainting students with management and prevention of drug abuse. It aims to teach students various preventive strategies and controlling techniques of drug abuse.

## Course Content:

The course provides an introduction to various preventive and controlling techniques of drug abuse. It focuses on the role of family, school, media and legislation in prevention of drug abuse. The course examines these strategies and aims to teach students on how to practically use these techniques that help in dealing with drug addiction/abuse.

## Detailed Course Contents: Available at www.gndu.ac.in

## What will be the teaching methods:
- Lectures : three per week
- Student Seminars: one per week
- Two assignments will be given in a month based on the topics covered
- Power-point Presentations
- Participatory and Experiential Learning

## Program Learning Outcomes:

9. Students will understand about various preventive strategies of drug abuse.
10. They will have deeper knowledge of how to control drug abuse.
11. Students will be able to identify which technique is best suitable for each and every person who abuse drugs.
12. They will understand about how family plays an important role in prevention of drug abuse.

13. Students will have knowledge about counseling and how it can be provided in schools to prevent drug abuse.
14. Apart from these preventive measures, students will gain knowledge about how media can play an important role in controlling drug abuse.
15. *The course will help in spreading awareness about how legislation can play a vital role in controlling drug abuse.*
16. *Students will be able to implement these strategies in real life and help those who abuse drugs.*

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (Unit wise) 2.Student Seminars 3. In House Exams | | |
| | 40% | After Each Unit |
| | | Every week |
| | 40% | Last Week of September |
| **End of Semester Exam** | 40% | Last week of November onwards |

## Teaching Outline:

| Unit | Teaching Dates |
|---|---|
| I | 11 January to 05 February |
| II | 06 February to 29 February |
| III | 02 March to 25 March |
| IV | 26 March to 18 April |
| Revision | Till 30 April |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## Text Book(s):

Kishore, K. (2018). Drug Abuse: Problem, Management and Prevention. New Delhi: Modern Publishers.

## References:

1. Ahuja, Ram (2003), Social Problems in India, Rawat Publication, Jaipur.

2. Extent, Pattern and Trend of Drug Use in India, Ministry of Social Justice and Empowerment, Government of India, 2004.

3. Inciardi, J.A. 1981. The Drug Crime Connection. Beverly Hills: Sage Publications.

4. Kapoor. T. (1985) Drug epidemic among Indian Youth, New Delhi: Mittal Pub.

5. Kessel, Neil and Henry Walton. 1982, Alcohalism.Harmond Worth: Penguin Books.

6. Modi, Ishwar and Modi, Shalini (1997) Drugs: Addiction and Prevention, Jaipur: Rawat Publication.

7. National Household Survey of Alcohol and Drug abuse. (2003) New Delhi, Clinical Epidemiological Unit, All India Institute of Medical Sciences, 2004.

8. Ross Coomber and Others. 2013, Key Concept in Drugs and Society. New Delhi: Sage Publications.

9. Sain, Bhim 1991, Drug Addiction Alcoholism, Smoking obscenity New Delhi: Mittal Publications.

10. Sandhu, Ranvinder Singh, 2009, Drug Addiction in Punjab: A Sociological Study. Amritsar: Guru Nanak Dev University.

11. Singh, Chandra Paul 2000. Alcohol and Dependence among Industrial Workers: Delhi: Shipra.

12. Sussman, S and Ames, S.L. (2008). Drug Abuse: Concepts, Prevention and Cessation, Cambridge University Press.

## E- resources

- Verma, P.S. 2017, "Punjab's Drug Problem: Contours and Characterstics", Economic and Political Weekly, Vol. LII, No. 3, P.P. 40-43.

- World Drug Report 2016, United Nations office of Drug and Crime.

- World Drug Report 2017, United Nations office of Drug and Crime.

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: Open Source Software

**Programme: B.Voc. (SD)**
**Semester: IV**
**Name of the Teacher: RakhiTalwar**
**Availability Timings: 9.00 AM to 3.30 PM**
**E-mail: Rakhi.computerlkc@gmail.com**

## Course Objectives:

The objectives of this course are to introduce students to open source software. Students will study common open source software licenses, open source project structure, distributed team software development, and current events in the open source world. Students will also work on an open source project and will be expected to make a significant contribution.

## Detailed Course Contents: Available at  www.gndu.ac.in

## What will be the teaching methods:
- Lectures : six per week
- Student Seminars: two per week
- Assignments : The students will be asked to read the textbook in advance and make notes on given topics
- PowerPoint Presentations

## Program Learning Outcomes:
- Students will be able to explain common open source licenses and the impact of choosing a license
- Understand open source project structure and how to successfully setup a project Students will be competent with distributed software engineering tools and processes such as test-driven development, issues tracking, unit testing, code review, distributed version control, and continuous integration.

## Teaching Outline:

| S.No | Topic | Week | Mode |
|------|-------|------|------|
| **27.** | **Open Source Software:** Introduction to Open Source Software, Need of Open Source Software, Advantages of Open Source Software, Application of | First 3 weeks | Chalk & Board |

| | | | |
|---|---|---|---|
| | Open Source Software, and Categories of Open Source Software and Specific Characteristics of OSS. **Organization and Management of OSS:** OSS development Process, Taboos and norms in OSS development, The OSS development life cycle | | |
| **28.** | **Development of OSS:** Methodology and languages used to develop open source products, Cross Platform code | 4$^{th}$week | Chalk & Board |
| **29.** | **Software and Intellectual Property Rights:** Basic Principles of Copyright Law, Contracts, Patents, Licenses, Issues with copyrights and patents, Open Source Software Licensing | 5$^{th}$week-6$^{th}$ week | Chalk & Board |
| **30.** | **Open source operating systems:** LINUX: Introduction, General Overview, Kernel Mode and user mode, Process, Advanced Concepts, Scheduling, Personalities, Cloning, Signals, Development with Linux. | 7$^{th}$week-8$^{th}$ week | Chalk & Board |
| **31.** | **Open Source Database:** MYSQL: Introduction, Setting up account, starting, terminating and writing your own SQL programs, Record selection Technology, Working with strings, Date and Time, Sorting Query Results, Generating Summary, Working with metadata Using sequences, MYSQL and Web. | 9$^{th}$week-11$^{th}$ week | Chalk & Board |
| **32.** | Revision of Whole Syllabus | Till Exam | |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## References:

- Joseph Feller & Brian Fitzgerald,Pearson Education Limited, 2002.

- Paul Kavanagh, Open Source Software: Implementation and Management, Elsevier Digital Press, 2004.

- Steve Suchring, "MySQL Bible", John Wiley, 2002

- Joseph Feller, Perspectives on Free and Open Source Software, MIT Press Books, 2005.

- Chris Dibona, Danese Cooper, Mark Stone, Open Sources 2.0, The Continuing Evolution, O' Reilly, 2006

| Sr. No | Academic Activity | Date | Mode of Delivery* | Students Role** |
|---|---|---|---|---|
| 1. | Doubt Clearing | Daily | Chalk & Board | Discussion |
| 2. | Presentations | | Presentation | Active Participation |

# CURRICULUM PLANNING AND IMPLEMENTATION

**CLASS- B.VOC (software development) –sem IV**

**Paper III- operating system**

**Name of the Teacher: Prof. shilpidhir**
**Lecture Timings: 9:00am-3pm**
**E-mail:  shilpi.wadhwa84@gmail.com**

**Objectives of the Course:**
This course aims at acquainting students with the knowledge of understanding thedetailed concepts of operating system

**Detailed Course Contents: Available at**  www.gndu.ac.in

**What will be the teaching methods:**
- Lectures : six per week
- Student Seminars: two per week
- Assignments : The students will be asked to practice the c programs  in practical labs.
- Powerpoint Presentations
- Weekly class tests.

**Teaching Outline:**

| Unit | Teaching Dates(jan 2020- april 2020) |
|---|---|
| UNIT -A | 14 January to 23 January |
| UNIT- B | 1$^{st}$ February to 8 February |
| UNIT -C | 15february  to 20 March |
| Revision | Till 30$^{th}$ march |
| Class tests | 1$^{st}$april to 20$^{th}$april |

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**Lesson plan (Datewise):**

**Unit A( 14$^{th}$ Jan to 23$^{rd}$ Jan)**

**14$^{th}$jan-**early systems, batch processing, multiprogramming, time sharing
**15$^{th}$jan-**personal computer system, parallel systems
**16$^{th}$jan-**distributed systems, real time systems
 **23$^{rd}$jan-**process concepts, scheduling

**Unit  B(1$^{st}$feb to 12$^{th}$feb)**

**1$^{st}$feb-**threads, cpu scheduling
**4$^{th}$feb-**scheduling algorithms

**7$^{th}$feb-**process synchronization: section problem

**8<sup>th</sup>feb-**semaphores, classical problem of synchronization

## Unit C( 15<sup>th</sup>feb- 28<sup>th</sup>feb)

**15<sup>th</sup>feb-**memory management: logical and physical address space
**18<sup>th</sup>feb-**mapping, paging
**21<sup>stto</sup> 28<sup>th</sup>feb**-segmentation, disk structures, disk scheduling and reliability.

## UNIT–C(1<sup>st</sup> march-15<sup>th</sup> march)

Virtual memory, demand paging, page replacement  and algorithms, thrashing, deadlocks, prevention, avoidance and detection

## UNIT–C(16<sup>th</sup> march-20<sup>th</sup> march)

Recovery from deadlock, combined approach to deadlock handling

**Recommended Book :**
1. OPERATING SYSTEM CONCEPTS BY GALVIN
2.OPERATING SYSTEM by Dietel, Addison Welsey.

## INSTRUCTION PLAN (January 13, 2020 to April ,2020)

**Class**          :          **B.Voc (Software Development)-IV Semester**

**Subject**          :          **Information Technology**

**Teacher's Name**          :          **Prof. Sonu Gupta**

**Paper-V:**          :          **Lab I: Practical based on Android Development**

## INSTRUCTION PLAN (January 13, 2020 to April ,2020)

| S.No | Topic | Week | Mode |
|------|-------|------|------|
| **1.** | Introduction to Android, Installing the SDK. Creating Android Emulator. Installing Android development tools. Choosing which Android version to use. | $2^{nd}$ week | Practical Training |
| **2.** | Creating a project. Working with android manifest.XML Various controls. Layouts | $3^{rd}$ week | Practical Training |
| **3.** | Text controls Button controls Images Supporting Multiple Screen | $4^{th}$ week-$5^{th}$ week | Practical Training |
| **4.** | Activities. Application context. Intent | $6^{th}$ week | Practical Training |
| **5.** | WebView. | $7^{th}$ week | Practical Training |
| **6.** | List View. Spinner AutoComplete Textview. MultiAutoComplete Textview | $8^{th}$ week | Practical Training |
| **7.** | Toast. Dialogue Notification. Statusbar Notification. | $9^{th}$ week | Practical Training |
| **8.** | Option Menu. Context Menu. Google Map. | $10^{th}$ week-$11^{th}$ week | Practical Training |
| **9.** | Database | $12^{th}$ week | Practical Training |

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**CURRICULUM PLANNING AND IMPLEMENTATION**

**Course Name: Practical based on ASP.NET using C#**

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**Programme: B.VOC (Software Development)**
**Semester: IV**
**Name of the Teacher: Pallavi Sood**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  pallavicomputerlkc@gmail.com**

**Objectives of the Course:**
This course aims to an understanding of language ASP.Net. This course aims to an understanding of various standard and rich controls used in ASP.Net and how to create web pages, web sites and how to add different functionalities on web pages and how to connect multiple web pages to create a web site.

**Course Content:**
The course provides an introduction of .NET framework, basics of ASP.NET and standard web controls, validation controls, rich web controls, list controls, creation of master pages, advantages of using master pages, modification of master pages, loading master page dynamically, SQL data source control, grid view controls, using fields with the grid view control, building data access components with ADO.NET.

**The Teaching methods used:**
- Lectures : six per week
- Assignments: The students will be asked to make implementation of various controls and to make small web sites.

**Program Learning Outcomes:**
**Knowledge and Understanding:**
- Students will know about basics of ASP.NET .
- Students will learn about various standard and rich controls available in ASP.NET.
- Students will understand how to apply validation controls on web pages.
- Students will understand and be able to add various advertisements on web page using adrotator control.
- Students will understand about master pages and how to use it.
- Students will learn about database connectivity in ASP.NET.

**Teaching Outline:**

| Topic | Teaching Dates |
|---|---|
| **Introduction to .NET framework, basics of ASP.NET and introduction of basic web controls** | **11 January 2020 - 21 January 2020** |
| **Designing of web page and implementation of standard web controls like label, textbox, checkbox and radio button** | **22 January 2020 - 29 January 2020** |
| **Implementation of web controls like literal,** | **29 January 2020 – 5 February** |

| | |
|---|---|
| **button control, link button, hyperlink.** | **2020** |
| **Implementation of web controls like image, image button, imageMap, Panel control** | **6 February 2020- 13 February 2020** |
| **Implementation of Validation Controls** | **14 February 2020 - 21 February 2020** |
| **Implementation of rich web controls like file upload, calendar control, AdRotator control** | **22 February 2020 – 1 March 2020** |
| **Implementation of Wizards, ListBox controls** | **2 March 2020 – 9 March 2020** |
| **Implementation of Master pages and loading master page dynamically** | **10 March 2020 – 17 March 2020** |
| **Implementation of database connectivity in AS.NET.** | **18 March 2020 – 25 March 2020** |
| **Implementation of grid view and executing database commands** | **26 March 2020- 2 April 2020** |
| **Designing a small web site** | **3 April 2020 – 10 April 2020** |
| **Revision** | **Till 30 April 2020** |

### Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

### *References:*

1. Asp.Net: The Complete Reference   (English, softcover, Matthew MacDonald)
2. Programming ASP.NET Core by Dino Esposito
3. Advanced Web Technologies using ASP.NET by Kalyani Publishers
4. ASP.NET 4.5 BLACK BOOK

### E- resources

- https://www.tutorialspoint.com/asp.net/asp.net_introduction.htm

- https://www.w3schools.com/asp/default.ASP

- https://www.guru99.com/asp-net-tutorial.html

- https://www.youtube.com/watch?v=E7Voso411Vs

- https://www.youtube.com/watch?v=18Q4pGzL_U8

# CURRICULUM PLANNING AND IMPLEMENTATION

**Course Name:** Introduction to Programming in C++

**Programme : BCA**

**Semester: II**

**Name of the Teacher: Sanjeev Kumar Anand**

**Availability Timings: 9.00 AM to 4.00 PM**

**E-mail:  sanjeevkumarcomputerlkc@gmail.com**

**Objectives of the Course:**

- To take review or tour of Programming in C and make aware of limitation of C, thereby need of the origin of C++.

- To impart knowledge in such a way that students should be able to use of concept of Object Oriented Programming Approach in their programming skills.

- To imbibe with the knowledge of implementation of various features of C++ i.e. concept of Object, Object communication, Encapsulation, Data hiding, overloading, inheritance, polymorphism etc.

- To raise programming level of students in C++ to be able to apply in the real life.

**Course Content:** Concept of Object, Class, Attributes, message communication, Methods/Members functions, Data Encapsulation, Data hiding, operator overloading, inheritance, polymorphism, virtual function, template etc.

**Detailed Course Contents: Available at:** www.gndu.ac.in

**What will be the teaching methods:**

- Lectures : six per week

- Student Lab: six per week

- Assignments : The students will be asked to read the textbook in advance and write articles on given topics

- PowerPoint Presentations Topics: Programming in C++

**Program Learning Outcomes:**

**(Knowledge and Understanding, Intellectual Skills, practical Skills, Transferable skills).**

**Learning Outcomes:**

### J.  Knowledge and Understanding:

Students will be

- Able to know how to do programming in C++ environment.

- Able to understand and implement the concepts of object oriented approach using C++.
- Able to acquire in depth knowledge and develop software in C++

**B. <u>Intellectual (Cognitive/ Analytical) Skills</u>:**

Students will be able to

- identify different class attributes, member functions, base class and derived class and their relationships among them
- learn how to reuse the code using polymorphism

**C. <u>Practical Skills</u>**

Students will be able to learn:

- to solve a real life existing problems using the features of C++
- to develop software/ big and complex programs for a complex problems
- implement advance features of object oriented approach in other various language(s).

**D. <u>Transferable Skills</u> :**

Students will be able to

- use C++ more effectively,
- learn to think more analogously, creatively as well as comparatively
- develop better software development skills in other language too.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** <br><br> 1.Class Tests (Unit wise) <br><br> 2.Student Seminars <br><br> 3. In Assignment Remarks | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **Last Week of March** |
| **End of Semester Exam** | **40%** | **Last week of April onwards or as per University schedule** |

<u>**Teaching Outline:**</u>

| Unit | Teaching Dates |
|---|---|
| I | 11 Jan to 10 Feb |

| II | 11 August to 5 March |
|---|---|
| III | 6 March to 31 March |
| IV | 1April to 15 April |
| Revision | Till End session |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

E-Book: (Hardeep singh,Manohar Singh,AP Publishers )

## *References:*

**Books:**
1. How to solve it by Computer by A.G. Dromey, PHI
2. Teach Yourself C++, Herbert Schildth, Tata McGraw Hill.
3. Designing Object Oriented Software Rebacca Wirfs - Brock Brian Wilerson, PHI.
4. Object Oriented Programming in Turbo C++, Robert Lafore, Galgotia Publication.
5. Designing Object Oriented Applications using C++ & Booch Method, Robert C. B. Martin
6. Object Oriented Programming in C++ by Robert Lafore, SAMS K.
7. E Balagurusamy, Object oriented Programming with C++, 6th Edition, New Delhi: Tata McGraw-Hill Publishing Company Limited

## E-Notes sites links

## CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: Digital Electronics

**Programme : BCA**
**Semester: II**
**Name of the Teacher: Dr. Daljit Kaur**
**Availability Timings: 9.00 AM to 3.30 PM**
**E-mail:** daljitcomputerlkc@gmail.com

## Objectives of the Course:

1. To understand number representation and conversion between different representation in digital electronic circuits.
2. To analyze logic processes and implement logical operations using combinational logic circuits.
3. To understand characteristics of memory and their

classification.
4. To understand concepts of sequential circuits and to
analyze sequential systems in terms of state machines.
5. Fundamentals of analog and digital integrated circuits.


Course Content:

This course is emphasizes on techniques to design, analyze, plan, and implement complex digital systems using logic devices. It explores The Introduction to Digital electronics ,Digital and Analog Signals and Systems, Binary Digits, Logic Levels, and Digital Waveforms, Logic Systems-Positive and negative, Logic Operations, Combinational and Sequential Logic Functions, Programmable Logic, Fixed-Function Logic Devices.

**Detailed Course Contents: Available at** www.gndu.ac.in

**What will be the teaching methods:**
- Lectures : six per week
- Student Seminars: one per week
- Assignments : The students will be asked to solve the problems and draw circuit diagrams time to time.
- Powerpoint Presentations
- Quiz
- Written and Oral Tests


**Program Learning Outcomes:**


**(Knowledge and Understanding, Intellectual Skills, practical Skills, Transferable skills).**
**Learning Outcomes:**


- Understand the fundamentals and areas of applications for the Integrated Circuits.
- Analyze important types of integrated circuits of day-to-day requirements.
- Have a thorough understanding of the fundamental concepts and techniques used in
- digital electronics.
- To understand and examine the structure of various number systems and its
- application in digital design.
- The ability to understand, analyze and design various combinational and sequential
- circuits.
- The ability to identify and prevent various hazards and timing problems in a digital
- design.
- To develop skill to build, and troubleshoot digital circuits.

| Modes of Assessment | Minimum Score Required (to | Schedule |
|---|---|---|

| | Qualify for the Next Exam/Class) | |
|---|---|---|
| **Continuous Internal Evaluation(CIE)**<br><br>1.Class Tests (Unit wise)<br><br>2.Student Seminars<br><br>3. In House Exams | | |
| | **35%** | **After Each Unit** |
| | | **Every week** |
| | **35%** | **(As per college Schedule)** |
| **End of Semester Exam** | **35%** | **May** |

## Teaching Outline:

| Section | Teaching Dates |
|---|---|
| A | 15 Jan to 10 Feb |
| B | 12 Feb to  05 March |
| C | 08 March to 22March |
| D | 25 March to April 7 |
| Revision | April 10 to April 20 |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## Text Book(s):

Yule, George (2010), *The Study of Language*. Cambridge University Press.

## *References:*

1. Integrated Electronics by Millman, Halkias McGraw Hill.
2. Malvino: Digital Computer Electronics, McGraw Hill.
3. D.A. Hodges & H.G. Jackson, Analysis and Design of Integrated Circuits, International, 1983.
4. Joph. F. Wakerley, Digital Principles and Practices.
5. Ujjenbeck, John: Digital Electronics: A Modern Approach, Prentice Hall, 1994.
6. Mano, M. Morris: Digital Logic and Computer Design, Edition, 1993.

## E- resources

- https://www.cl.cam.ac.uk › teaching › DigElec › Digital_Electronics_pdf

- https://pages.uoregon.edu › rayfrey › DigitalNotes

- https://www.agner.org › digital › digital_electronics_agner_fog

## CURRICULUM PLANNING AND IMPLEMENTATION
## PAPER NAME: NUMERICAL METHODS & STATISTICAL TECHNIQUES

**CLASS: BCA**
**Semester: II**
**Name: MANDEEP SINGH**
**Email id:** lkcmandeep@gmail.com

## Objectives of the Course:

The objectives of the course are to develop numerical methods aided by technology to solve algebraic, transcendental, and differential equations, and to calculate derivatives and integrals. The course will also develop an understanding of the elements of error analysis for numerical methods and certain proofs. The course will further develop problem solving skills**:**

- Develop appropriate numerical methods to approximate a function
- Perform an error analysis for various numerical methods
- Develop appropriate numerical methods to solve a differential equation
- Derive appropriate numerical methods to solve a linear system of equations
- Derive appropriate numerical methods to evaluate a derivative at a value
- Prove results for various numerical root finding methods
- Derive appropriate numerical methods to calculate a definite integral
- Code various numerical methods in a modern computer language

## Course Contents

Numerical methods are the basic algorithms underpinning computer predictions in modern systems science. Such methods include techniques for simple optimization, interpolation from the known to the unknown, linear algebra underlying systems of equations, ordinary differential equations to simulate systems, and stochastic simulation under random influences. Topics covered are:

- Numerical Methods, Numerical methods versus numerical analysis, Errors and Measures of Errors.
- Non–linear Equations, Iterative Solutions, Multiple roots and other difficulties, Interpolation methods, Methods of bi–section, False position method, Newton Raphson Method.
- Simultaneous Solution of Equations, Gauss Elimination Method Gauss Jordan Method.
- Numerical Integration and different Trapezoidal Rule, Simpson's 3/8 Rule.
- Interpolation and Curve Fitting, Lagrangian Polynomials,
- Newton's Methods: Forward Difference Method, Backward Difference Method Divided Difference Method.
- Least square fit linear trend, Non–linear trend.
- Statistical Techniques
- Measure of Central Tendency, Measures of dispersion, Co–efficient of variation, Correlation

## Weekly Schedule:

| Week 1 | Numerical Methods, Numerical methods versus numerical analysis, Errors and Measures of Errors, Arithmetic Operations |
|--------|---|
| Week 2 | Non–linear Equations, bi–section, False position method, Newton Raphson Method |
| Week 3 & 4 | Simultaneous Solution of Equations, Gauss Elimination and Gauss Jordan Method. |
| Week 5 & 6 | Numerical Integration and different Trapezoidal Rule, Simpson's 3/8 Rule. |
| Week 7 & 8 | Interpolation and Curve Fitting, Lagrangian Polynomials, |
| Week 9 & 10 | Newton's Forward Difference, Backward Difference and Divided Difference Method. |
| Week 11 | Least square fit linear trend, Non–linear trend. |
| Week 12 | Measure of Central Tendency |
| Week 13 | Measures of dispersion |
| Week 14 | Correlation |

### References:

- V. Rajaraman: Computer Oriented Numerical Methods, Prentice Hall of India Private Ltd., New Delhi.
- B.S. Grewal, Numerical Methods for Engineering, Sultan Chand Publication
- R.S Salaria, Computer Oriented Numerical Methods, Khanna Publishers, New Delhi.

## CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: BCA

### Even Semester

**Programme : Advanced C++Programming (Paper IV)**

**Semester: II**

**Name of the Teacher: Jaskaranjit Kaur**

**Availability Timings: 9.00 AM to 3.00 PM**

**E-mail:** *jaskaranjitcomputerlkc@gmail.com*

### Objectives of the Course:

The main objective of this course is to provide students with the advance knowledge of object oriented programming language C++.

### Course Content:( Practical Assignment)

1. What do you mean by Errors. Explain the types of Errors.
2. Write a program to find root of an equation using Bisection method.
3. Write a program to find root of an equation using False portion method.
4. Write a program to find root of an equation using Newton Raphson method.
5. Write down the methods to solve system of Liner equations and also write the difference between Gauss elimination & Gauss Jordan method.
6. Write a program for numerical in Integration using Trapezoidal rule when tabulated values are given.
7. Write a Program for numerical integration using Simpson's 3/8 Rule.

8.  Write a Program in C++ to fit straight line Y or X.
9.  Explain various Measures of central Tendency.
10. Write a program to calculate authentic Mean in Individual series.
11. Write a Program to calculate Arithmetic men in Discrete series..
12. Write a program to calculate Geometric Mean in individual series.
13. Write a program to calculate mode in the case of discrete series.
14. Write a program to calculate range its co-efficient in individual series.
15. Write a program to calculate mean deviation using mean in the case of individual series.
16. Write a program to calculate standard deviation in case of individual series.

## **Detailed Course Contents: Available at** www.gndu.ac.in

## **What will be the teaching methods:**

-   Lectures : Three per week
-   Assignments : Students will be asked to make handwritten file of these questions with proper screenshots of their work
-   Students will be given with practical questions to complete in the lab.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)**<br><br>1.Practical file (Unit wise)<br><br>2.Student viva<br><br>3. Discussion and doubt sessions<br><br>4. Completion of practical assignment questions in the Lab. | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **Last Week of April** |
| **End of Semester Exam** | **40%** | **Last Week of April** |

## **Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

# CURRICULUM PLANNING AND IMPLEMENTATION

**Course Name:** BCA(SEMESTER – II) (Paper – IV: Practical – I (Advanced C++ Programming))

**Programme: BCA**
**Semester:** II
**Name of the Teacher: Ramandeep Kaur**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  ramancomputerlkc@gmail.com**

## Objectives of the Course:
The main objective of this course is to understand and implement various concepts of numerical analysis and statistics to solve real life problems.

## Course Content:
Numerical Methods, Numerical methods versus numerical analysis, Errors and Measures of Errors. Non–linear Equations, Iterative Solutions, Multiple roots and other difficulties, Interpolation methods, Methods of bi–section, False position method, Newton Raphson – Method. Simultaneous Solution of Equations, Gauss Elimination Method Gauss Jordan Method. Numerical Integration and different Trapezoidal Rule, Simpson's 3/8 Rule. Interpolation and Curve Fitting, Lagrangian Polynomials, Newton's Methods: Forward Difference Method, Backward Difference Method Divided Difference Method. Measure of Central Tendency, Mean Arithmetic, Mean geometric, Mean harmonic, Mean, Median, Mode.  Measures of dispersion, Mean deviation, Standard deviation, Co–efficient of variation.  Correlation.

## Detailed Course Contents: Available at: www.gndu.ac.in
## What will be the teaching methods:
- Lectures : three per week
- Assignments : In the class room Assignments will be given to the students in the form of print handouts and hand written form.
- Participatory and Experiential Learning
- Quiz

## Program Learning Outcomes:

## (Knowledge and Understanding, Intellectual Skills, practical Skills, Transferable skills).
## Learning Outcomes:

### L. Knowledge and Understanding):
Understand the various approaches dealing the data using theory of probability.  Analyze the different samples of data at different level of significance using various. hypothesis testing.  Develop a framework for estimating and predicting the different sample of data for  handling the

uncertainties.  Understand error, source of error and its affect on any numerical computation and also.analyzing the efficiency of any numerical algorithm.  Learn how to obtain numerical solution of nonlinear equations using Bisection, Newton –Raphson and fixed-point iteration methods.  Solve system of linear equations numerically using direct and iterative methods.Understand the methods to construct interpolating polynomials with practical exposure.

## B. <u>Intellectual( Cognitive/ Analytical) Skills</u>:

Students will be able to  Demonstrate an understanding and implement various concepts of numerical analysis and statistics to solve real life problems.

## C. <u>Practical Skills</u>

Operational Knowledge and Implementation of Numerical Methods & Statistical techniques using C++ language.

## D. <u>Transferable Skills</u> :

Students will be able to
- learn to think more creatively as well as comparatively, and

## <u>Teaching Outline:</u>

| Unit | Teaching Dates |
|------|----------------|
| I | 13 Jan to 31 Jan |
| II | 1 Feb to 6 March |
| III | 9 March to 31 March |
| IV | 1 April to 15 April |
| Revision | Till 30 April |

## <u>Attendance Policy</u>

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## *Text Books:*

1. Conte, S. D. and Boor, C. D., Elementary Numerical Analysis : An Algorithmic approach, (Third Edition), Tata McGraw Hill, New York (2006).

2. 2. Hogg, Robert V, Elliot A Tanis and Rao, Jagan M., Probability and Statistical Inference, Pearson Education (2009).

## *Reference Books:*

1. Jain, M. K., Iyengar, S. R. K. and Jain, R. K., Numerical Methods for Scientific and Engineering Computation, New Age International Publishers (2008).

2. Meyer P. L., Introductory Probability and Statistical Applications, Oxford and IBH (2008)

3. V. Rajaraman: Computer Oriented Numerical Methods, Prentice Hall of India Private Ltd., New Delhi.

4.B.S. Grewal, Numerical Methods for Engineering, Sultan Chand Publication

# E- resources

- https://www.math.ust.hk/~machas/numerical-methods.pdf

- https://lecturenotes.in/notes/7810-notes-for-numerical-methods-nm-by-ranu-singh

- https://pfortuny.net/uniovi/numerical_methods/notes.pdf

## CURRICULUM PLANNING AND IMPLEMENTATION
## PAPER NAME: Paper – IV: Practical–I

**CLASS: BCA**
**Semester: II**
**Name: SANDEEP SINGH**
**Email id:Sandeepcomputerlkc@gmail.com**
**Objectives of the Course:**

The objectives of the course are to develop numerical methods aided by technology to solve algebraic, transcendental, and differential equations, and to calculate derivatives and integrals. The course will program the various numerical methods problems using C++. The course will further develop problem solving skills**:**
- Perform an error analysis using C++ for various numerical methods
- Implement appropriate numerical methods in C++ to solve a differential equation
- Implement appropriate numerical methods to solve a linear system of equations using C++
- Implement appropriate numerical methods to evaluate a derivative at a value using C++
- Implement appropriate numerical methods to calculate a definite integral using C++

## Course Contents

Numerical methods are the basic algorithms underpinning computer predictions in modern systems science. Such methods include techniques for simple optimization, interpolation from the known to the unknown, linear algebra underlying systems of equations, ordinary differential equations to simulate systems, and stochastic simulation under random influences. Topics covered are:
- Numerical Methods, Numerical methods versus numerical analysis, Errors and Measures of Errors.
- Non–linear Equations, Iterative Solutions, Multiple roots and other difficulties, Interpolation methods, Methods of bi–section, False position method, Newton Raphson Method.
- Simultaneous Solution of Equations, Gauss Elimination Method Gauss Jordan Method.
- Numerical Integration and different Trapezoidal Rule, Simpson's 3/8 Rule.

- Interpolation and Curve Fitting, Lagrangian Polynomials,
- Newton's Methods: Forward Difference Method, Backward Difference Method Divided Difference Method.
- Least square fit linear trend, Non–linear trend.
- Statistical Techniques
- Measure of Central Tendency, Measures of dispersion, Co–efficient of variation, Correlation

## Weekly Schedule:

| Week 1 & 2 | Implementation of Bisection Method, False position method & Newton Raphson Method |
|---|---|
| Week 3 | Gauss Elimination and Gauss Jordan Method. |
| Week 4 & 5 | Trapezoidal Rule, Simpson's 1/3 & 3/8 Rule. |
| Week 6 & 7 | Interpolation and Curve Fitting, Lagrangian Polynomials, |
| Week 8 & 9 | Newton's Forward Difference, Backward Difference and Divided Difference Method. |
| Week 10 | Least square fit linear trend, Non–linear trend. |
| Week 11 & 12 | Measures of Central Tendency |
| Week 13 | Measures of dispersion |
| Week 14 | Correlation |

## References:

- V. Rajaraman: Computer Oriented Numerical Methods, Prentice Hall of India Private Ltd., New Delhi.
- B.S. Grewal, Numerical Methods for Engineering, Sultan Chand Publication
- R.S Salaria, Computer Oriented Numerical Methods, Khanna Publishers, New Delhi.

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: Drug Abuse: Problem, Management and Prevention

**Programme: BCA, B.Sc. IT, B.Voc. SD, B.Voc. PT, BAJMC, BDMM**
**Semester: II**
**Name of the Teacher: ShefaliTaneja**
**Availability Timings: 9.00 AM to 3.30 PM**
**E-mail:** shefalilkc@gmail.com

## Objectives of the Course:

This course aims at acquainting students with management and prevention of drug abuse. It aims to teach students various preventive strategies and controlling techniques of drug abuse.

## Course Content:

The course provides an introduction to various preventive and controlling techniques of drug abuse. It focuses on the role of family, school, media and legislation in prevention of drug abuse. The course examines these strategies and aims to teach students on how to practically use these techniques that help in dealing with drug addiction/abuse.

**Detailed Course Contents: Available at** www.gndu.ac.in

**What will be the teaching methods:**
- Lectures : three per week
- Student Seminars: one per week
- Two assignments will be given in a month based on the topics covered
- Power-point Presentations
- Participatory and Experiential Learning

**Program Learning Outcomes:**

17. Students will understand about various preventive strategies of drug abuse.
18. They will have deeper knowledge of how to control drug abuse.
19. Students will be able to identify which technique is best suitable for each and every person who abuse drugs.
20. They will understand about how family plays an important role in prevention of drug abuse.
21. Students will have knowledge about counseling and how it can be provided in schools to prevent drug abuse.
22. Apart from these preventive measures, students will gain knowledge about how media can play an important role in controlling drug abuse.
23. The course will help in spreading awareness about how legislation can play a vital role in controlling drug abuse.
24. Students will be able to implement these strategies in real life and help those who abuse drugs.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| Continuous Internal Evaluation(CIE) | | |
| | 40% | After Each Unit |

| 1.Class Tests (Unit wise) | | Every week |
|---|---|---|
| 2.Student Seminars | 40% | Last Week of September |
| 3. In House Exams | | |
| **End of Semester Exam** | **40%** | **Last week of November onwards** |

## Teaching Outline:

| Unit | Teaching Dates |
|---|---|
| I | **11 January to 05 February** |
| II | **06 February to 29 February** |
| III | **02 March to 25 March** |
| IV | **26 March to 18 April** |
| **Revision** | **Till 30 April** |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## Text Book(s):

Kishore, K. (2018). Drug Abuse: Problem, Management and Prevention. New Delhi: Modern Publishers.

## *References:*

1. Ahuja, Ram (2003), Social Problems in India, Rawat Publication, Jaipur.

2. Extent, Pattern and Trend of Drug Use in India, Ministry of Social Justice and Empowerment, Government of India, 2004.

3. Inciardi, J.A. 1981. The Drug Crime Connection. Beverly Hills: Sage Publications.

4. Kapoor. T. (1985) Drug epidemic among Indian Youth, New Delhi: Mittal Pub.

5. Kessel, Neil and Henry Walton. 1982, Alcohalism.Harmond Worth: Penguin Books.

6. Modi, Ishwar and Modi, Shalini (1997) Drugs: Addiction and Prevention, Jaipur: Rawat Publication.

7. National Household Survey of Alcohol and Drug abuse. (2003) New Delhi, Clinical Epidemiological Unit, All India Institute of Medical Sciences, 2004.

8. Ross Coomber and Others. 2013, Key Concept in Drugs and Society. New Delhi: Sage Publications.

9. Sain, Bhim 1991, Drug Addiction Alcoholism, Smoking obscenity New Delhi: Mittal Publications.

10. Sandhu, Ranvinder Singh, 2009, Drug Addiction in Punjab: A Sociological Study. Amritsar: Guru Nanak Dev University.

11. Singh, Chandra Paul 2000. Alcohol and Dependence among Industrial Workers: Delhi: Shipra.

12. Sussman, S and Ames, S.L. (2008). Drug Abuse: Concepts, Prevention and Cessation, Cambridge University Press.

## E- resources

- Verma, P.S. 2017, "Punjab's Drug Problem: Contours and Characterstics", Economic and Political Weekly, Vol. LII, No. 3, P.P. 40-43.

- World Drug Report 2016, United Nations office of Drug and Crime.

- World Drug Report 2017, United Nations office of Drug and Crime.

# CURRICULUM PLANNING AND IMPLEMENTATION

### Course Name: Introduction to Programming in C++

**Programme : BCA**
**Semester: II**
**Name of the Teacher: Sanjeev Kumar Anand**
**Availability Timings: 9.00 AM to 4.00 PM**
**E-mail:  sanjeevkumarcomputerlkc@gmail.com**
**Objectives of the Course:**

- To take review or tour of Programming in C and make aware of limitation of C, thereby need of the origin of C++.

- To impart knowledge in such a way that students should be able to use of concept of Object Oriented Programming Approach in their programming skills.

- To imbibe with the knowledge of implementation of various features of C++ i.e. concept of Object, Object communication, Encapsulation, Data hiding, overloading, inheritance, polymorphism etc.

- To raise programming level of students in C++ to be able to apply in the real life.

**Course Content:** Concept of Object, Class, Attributes, message communication, Methods/Members functions, Data Encapsulation, Data hiding, operator overloading, inheritance, polymorphism, virtual function, template etc.

**Detailed Course Contents: Available at:** www.gndu.ac.in
**What will be the teaching methods:**

- Lectures : six per week
- Student Lab: six per week
- Assignments : The students will be asked to read the textbook in advance and write articles on given topics
- PowerPoint Presentations Topics: Programming in C++

**Program Learning Outcomes:**

**(Knowledge and Understanding, Intellectual Skills, practical Skills, Transferable skills).**
**Learning Outcomes:**

**M. Knowledge and Understanding:**
Students will be
- Able to know how to do programming in C++ environment.
- Able to understand and implement the concepts of object oriented approach using C++.
- Able to acquire in depth knowledge and develop software in C++

**B. Intellectual (Cognitive/ Analytical) Skills:**
Students will be able to
- identify different class attributes, member functions, base class and derived class and their relationships among them
- learn how to reuse the code using polymorphism

**C. Practical Skills**
Students will be able to learn:
- to solve a real life existing problems using the features of C++
- to develop software/ big and complex programs for a complex problems
- implement advance features of object oriented approach in other various language(s).

**D. Transferable Skills :**
Students will be able to
- use C++ more effectively,
- learn to think more analogously, creatively as well as comparatively
- develop better software development skills in other language too.

| Modes of Assessment | Minimum Score Required (to Qualify for the | Schedule |
|---|---|---|

| | Next Exam/Class) | |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** <br><br> 1.Class Tests (Unit wise) <br><br> 2.Student Seminars <br><br> 3. In Assignment Remarks | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **Last Week of March** |
| **End of Semester Exam** | **40%** | **Last week of April onwards or as per University schedule** |

### Teaching Outline:

| Unit | Teaching Dates |
|---|---|
| **I** | **11 Jan to 10 Feb** |
| **II** | **11 August to 5 March** |
| **III** | **6 March to 31 March** |
| **IV** | **1April to 15 April** |
| **Revision** | **Till End session** |

### Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

E-Book:           (Hardeep      singh,Manohar      Singh,AP      Publishers )

### *References:*

**Books:**
1. How to solve it by Computer by A.G. Dromey, PHI
2. Teach Yourself C++, Herbert Schildth, Tata McGraw Hill.
3. Designing Object Oriented Software Rebacca Wirfs - Brock Brian Wilerson, PHI.
4. Object Oriented Programming in Turbo C++, Robert Lafore, Galgotia Publication.
5. Designing Object Oriented Applications using C++ & Booch Method, Robert C. B. Martin
6. Object Oriented Programming in C++ by Robert Lafore, SAMS
   N.
8. E Balagurusamy, Object oriented Programming with C++, 6th Edition, New Delhi: Tata McGraw-Hill Publishing Company Limited

### E-Notes sites links

# CURRICULUM PLANNING AND IMPLEMENTATION

**Course Name:** BCA(SEMESTER – IV) (PAPER-I: DATA STRUCTURES AND FILE PROCESSING)

**Programme: BCA**
**Semester:** IV
**Name of the Teacher: RamandeepKaur**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  ramancomputerlkc@gmail.com**

## Objectives of the Course:

Throughout the course, students will be expected to demonstrate their understanding  of Data organization in computer memory by being able to do each of the following:

- To impart the basic concepts of data structures and algorithms
- To understand concepts about searching and sorting techniques
- To Understand basic concepts about stacks, queues, lists, trees and graphs
- To understanding about writing algorithms and step by step approach in solving problems with the help of fundamental data structures

## Course Content:

Covers the design, analysis, and implementation of data structures and algorithms to solve engineering problems using an object-oriented programming language. Topics include elementary data structures, (including arrays, stacks, queues, and lists), advanced data structures (including trees and graphs),the algorithms used to manipulate these structures, File Organization: Concept of field, record, file, blocking and compaction. File Organization Techniques: Sequential, indexed, indexed sequential, and their application to solving practical engineering problems.

## Detailed Course Contents: Available at: www.gndu.ac.in
## What will be the teaching methods:

- Lectures : six per week
- Assignments : In the class room Assignments will be given to the students in the form of print handouts and hand written form.
- Participatory and Experiential Learning
- Quiz

## Program Learning Outcomes:

## (Knowledge and Understanding, Intellectual Skills, practical Skills, Transferable skills).
## Learning Outcomes:

### O. Knowledge and Understanding):

Based on satisfactory completion of the course, a student should be able to: Formulate and apply object-oriented programming, using C++, as a modern tool to solve

• engineering problems. Demonstrate an understanding of basic data structures (such as an array-based list, linkedlist,

• stack, queue, binary search tree) and algorithms. Demonstrate the ability to analyze, design, apply and use data structures and algorithmsto

• solve engineering problems and evaluate their solutions

## B. Intellectual( Cognitive/ Analytical) Skills:

Students will be able to Demonstrate an understanding of analysis of algorithms. Study an algorithm or program code segment that contains iterative constructs and analyze the asymptotic time complexity of the algorithm or code segment.

## C. Practical Skills

Students will learn to:

• Ability to analyze algorithms and aalgorithm correctness.
• Ability to summarize searching and sorting techniques
• Ability to describe stack,queue and linked list operation.
• Ability to have knowledge of tree and graphs concepts.

## D. Transferable Skills :

Students will be able to

- learn to think more creatively as well as comparatively, and

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (Unit wise) 2.Student Seminars 3. In House Exams | | |
| | 35% | After Each Unit |
| | | Every week |
| | 35% | Last Week of Feb |
| End of Semester Exam | 35% | Last week of March onwards |

## Teaching Outline:

| Unit | Teaching Dates |
|---|---|
| I | 13 Jan to 31 Jan |
| II | 1 Feb to 6 March |
| III | 9 March to 31 March |
| IV | 1 April to 15 April |
| Revision | Till 30 April |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

### *Text/References:*

1. Data Structure – Seymour Lipschutz, Schaum Outline Series.

2. File Structure & Data Structures by E. Loomis.

3. Data Structures by Trabley & Soreuson.

## E- resources

- https://www.geeksforgeeks.org/introduction-to-data-structures-10-most-commonly-used-data-structures/

- https://www.w3schools.in/data-structures-tutorial/intro/

- https://www.tutorialspoint.com/data_structures_algorithms/index.htm

- https://www.javatpoint.com/data-structure-tutorial

- https://www.geeksforgeeks.org/data-structures/

- https://www.studytonight.com/data-structures/

## CURRICULUM PLANNING AND IMPLEMENTATION

**Course Name: Data Structures and File Processing**

**Programme: BCA**
**Semester: IV**
**Name of the Teacher: Karamjit Kaur**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  karamrandhawacomputerlkc@gmail.com**

## Objectives of the Course:

Students develop knowledge of basic data structures for storage and retrieval of ordered or unordered data. Data structures include: arrays, linked lists, binary trees, heaps, and hash tables.Students develop knowledge of applications of data structures including the ability to implement algorithms for the creation, insertion, deletion, searching, and sorting of each data structure. Students learn to analyze and compare algorithms for efficiency using Big-O notation.

Students implement projects requiring the implementation of the above data structures Using computer science theory, students will construct and analysis various data structures and abstract data types including lists, stacks, queues, trees, and graphs. Students will implement various sorting, searching, and hashing algorithms. Students will build a substantial, complex data structure.

## Course Content:
1. To impart the basic concepts of data structures and algorithms
2. To understand concepts about searching and sorting techniques
3. To Understand basic concepts about stacks,queues,lists,trees and graphs
4. To understanding about writing algorithms and step by step approach in solving problems with the help of fundamental data structures

## Detailed Course Contents: Available at www.gndu.ac.in

## What will be the teaching methods:
- Lectures : six per week
- Student Seminars: one per week
- Assignments: The students will be asked to write algorithms to solve different kind of problems related data management.
- PowerPoint Presentations
- Quiz

## Program Learning Outcomes:

- Ability to analyze algorithms and algorithm correctness.
- Ability to summarize searching and sorting techniques
- Ability to describe stack,queue and linked list operation.
- Ability to have knowledge of tree and graphs concepts.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)**<br><br>1.Class Tests (Unit wise)<br><br>2.Student Seminars<br><br>3. In House Exams | | |
| | 35% | After Each Unit |
| | | Every week |
| | 35% | (As per college Schedule) |

| | | |
|---|---|---|
| **End of Semester Exam** | **35%** | **May** |

## Teaching Outline:

| UNIT | Teaching Dates |
|---|---|
| I | 15 Jan to 20 Feb |
| II | 21 Feb to 15 March |
| III | 17 March to April 9 |
| Revision | April 10 to April 20 |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## *References:*

1. Data Structure – Seymour Lipschutz, Schaum Outline Series.

2. File Structure & Data Structures by E. Loomis.

3. Data Structures by Trabley & Soreuson

## *E- Resources*

- *https://www.geeksforgeeks.org › data-structures*

https://examupdates.in › Study Material

## CURRICULUM PLANNING AND IMPLEMENTATION

| | | |
|---|---|---|
| **Class** | **:** | **BCA** |
| **Semester** | **:** | **IV** |
| **Subject** | **:** | **Information Systems** |
| **Paper** | **:** | **II** |
| **Teacher's Name** | **:** | **Pawansupreet Kaur** |

**Objectives**

- The objective of this course is to make students to recognize how information systems support business strategy, business processes, and practical applications in an organization.

- Interrelate how various support systems can be used for business decisions and to sustain competitive advantage.

- Analyze systems development and project management methodologies.

- Combine analytical thinking, creativity and business-problem-solving as applied to ongoing MIS challenges, future trends, and relevant case studies.

- Express the proven value of, and relationship between business data, data management, and business intelligence.

**Outcomes**

- The student should be able to analyze, evaluate, and make recommendations regarding business technology and decisions.
- Evaluate the role of information systems in today's competitive business environment.
- Identify the major management challenges to building and using information systems in organizations.
- describe the types of information systems supporting the major functional areas of the business.
- assess the relationship between organizations, information systems and business processes, including the processes for customer relationship management and supply chain management.

**Teaching Outline**

| S.No | Topic | Week |
|------|-------|------|
| 1. | Fundamental aspects of Information, Capturing of Information, Converting Information to Computer – readable form, source of Information, on–line Information access and capture | 15January-3 February |
| 2. | What are systems? Information Systems? Categories of Information Systems, Development Life Cycle of Information system. | 4February-2 March |
| 3. | Various types of information systems: Transaction processing systems, office Automation systems, MIS and decision support system. | 3 March-25 march |
| 4. | Case studies of the Information System: Accounting Information systems, Inventory control systems & Marketing systems. | 26 March-15 April |
| 5. | Revision of Whole Syllabus | Till Exam |

| Sr. | Academic Activity | Date | Mode of | Students Role** |
|-----|-------------------|------|---------|-----------------|

| No | | | Delivery* | |
|---|---|---|---|---|
| 1. | Doubt Clearing | Every Friday / Saturday | Chalk & Board | Discussion |
| 2. | Presentations | | Presentation | Active Participation |
| 3. | Class Test | | ---- | Oral Test |

### REFERENCES

"Information Systems" by Mudride & Ross

"Business Information Systems",Muneesh Kumar.

"Information Systems for Managers", Ashok Arora and A.K. Shaya Bhatia.

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: INTERNET APPLICATIONS

**Programme : BCA**
**Semester: IV**
**Name of the Teacher: Jaskiran Kaur**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:** jaskirancomputerlkc@gmail.com

## Course Content:

The course provides an introduction to the internet and its working, business use of internet, services offered by internet, evaluation of internet, internet service provider (ISP), windows environment for dial up networking (connecting to internet), audio on internet, internet addressing (DNS) and IP addresses).

Then students will get through the basics of an E–Mail Basic; Advantage and disadvantage, structure of an e–mail message, working of e–mail (sending and receiving messages), managing e–mail (creating new folder, deleting messages, forwarding messages, filtering messages) Implementation of outlook express.

Further an Introduction to Internet Protocol like file transfer protocol (FTP), Gopher, Telnet, other protocols like HTTP and TCPIP will be given. Then will discuss working of WWW, Web browsing (opening, viewing, saving and printing a web page and bookmark), web designing using HTML, DHTML with programming techniques. A brief introduction about search engine, component of search engine, working of search engine, difference between search engine and web directory will be discussed. Also student will go through Intranet and Extranet, application of intranet, business

value of intranet, working of intranet, and role of extranet, working of extranet, difference between intranet and extranet.

## Detailed Course Contents: Available at

http://gndu.ac.in/syllabus/201819/ELECENG/BCA%202018-19.pdf

### Objectives of the Course:
Students will get a chance:
 1. To get familiar with basics of the Internet Programming.
2. To acquire knowledge and skills for creation of web site considering both client and server side programming
3. To gain ability to develop responsive web applications
4. To explore different web extensions and web services standards
5. To learn characteristics of DNS
6. To be familiarized with various internet protocols like Telnet, FTP and so on.

### Program Learning Outcomes:

(Knowledge and Understanding, Intellectual Skills, practical Skills, Transferable skills).

### P.   Knowledge and Understanding):
Students will
- know how to define internet, www, various protocols
- understand the working of internet
- are able to create email id and use it for sending online mails and attachments
- Students will understand and be able to describe the differences between internet and intranet.

### B. Intellectual( Cognitive/ Analytical) Skills:
Students will be able to
- identify which medium and topology should be used for networking
- They will be able to judge which connection should they use for getting an internet at home or work.
- Browsing at high sped using keywords

### C. Practical Skills
Students will learn to:
- Able to create HTML based web pages
- Dynamicity to web page using JavaScript.
-  Create email ids
- Surf net using shortcuts.

### D. Transferable Skills :
Students will be able to
- Create projects and earn money by selling them

## What will be the teaching methods:

- Lectures : six per week
- Student Seminars: two per week
- Assignments : The students will be asked to read the textbook in advance and write articles on given topics
- Powerpoint Presentations
- Participatory and Experiential Learning
- Quiz

## Program Learning Outcomes:

(Knowledge and Understanding, Intellectual Skills, practical Skills, Transferable skills).

### Q. Knowledge and Understanding):
Students will
- know how to define internet, www, various protocols
- understand the working of internet
- are able to create email id and use it for sending online mails and attachments
- Students will understand and be able to describe the differences between internet and intranet.

### B. Intellectual( Cognitive/ Analytical) Skills:
Students will be able to
- identify which medium and topology should be used for networking
- They will be able to judge which connection should they use for getting an internet at home or work.
- Browsing at high sped using keywords

### C. Practical Skills
Students will learn to:
- Able to create HTML based web pages
- Dynamicity to web page using javascript.
- Create email ids
- Surf net using shortcuts.

### D. Transferable Skills :
Students will be able to
- Create projects and earn money by selling them

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (Unit wise) 2.Student Seminars | | |
| | 40% | After Each Unit |
| | | Every week |
| **End of Semester Exam** | 40% | Last week of April onwards |

## Teaching Outline:

| Unit | Teaching Dates |
|---|---|
| I | 11$^{th}$ January 10$^{th}$ February |
| II | 11$^{th}$ February to 5$^{th}$ March |
| III | 6$^{th}$ March to 15$^{th}$ April |
| Revision | Till 30$^{th}$ April |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## Text Book(s):

Fundamentals Of Internet Applications Paperback – 2016
By Anshuman Sharma (Author), Lakhanpal Publications

## *References:*

10. "Understanding The Internet", Kieth Sutherland, Butterworth-Heinemann; 1st Edition (October 31, 2000).

11. "Internet Technologies", S. K. Bansal, APH Publishing Corporation (April 1, 2002).

12. "Data Communications and Networking", Behrouz A. Forouzan, 3rd Edition.

## E- resources

- http://download.nos.org/coa631/ch3.pdf

- http://shodhganga.inflibnet.ac.in/bitstream/10603/2778/6/06_chapter%201.pdf

- http://www.ddegjust.ac.in/studymaterial/msc-cs/ms-18.pdf

## CURRICULUM PLANNING AND IMPLEMENTATION

### Course Name: System Software

**Programme : BCA**
**Semester: IV**
**Name of the Teacher: Jaskaranjit Kaur(Section A) & Jaspreet Kaur Saini (Section B)**
**Availability Timings: 9.00 AM to 3.30 PM**
**E-mail:  jaskaranjitcomputerlkc@gmail.com**
jassainicomputerlkc@gmail.com

**Objectives of the Course:** This course aims at acquainting students with learning the system software. What are the different types of system software used in a computer? Distinguish between system and application software's and their characteristics. Understanding the roles of various system softwares.

**Course Content:**
To teach system software and its components. Guide about various types of system softwares and their characteristics. Design of one pass and two pass assemblers and their working. To study about macro processors their definition and expansion and how to generation of unique labels. To study the phases of compilation that is lexical analysis and parsing and the characteristics of cross compilers. To study in detail various loader and linkage editors.

Section A

 Introduction to System Software Introduction to System Software and its components Translators, loaders, interpreters, compiler, assemblers

Section B

 Assemblers: Overview of assembly process, design of one pass and two assemblers Macroprocessors: Macro definition and expansion, conditional macro expansion, Recursive macro expansion

Section C

Compilers: Phases of Compilation Process, Lexical Analysis, Parsing, Storage Management Optimization Incremental Compilers, Cross Compilers.

Section D

Loaders and Linkage Editors: Basic loader functions. Relocation, program linking, linkage, editors, dynamic linking, Bootstrap loaders

**Detailed Course Contents: Available at** www.gndu.ac.in

**What will be the teaching methods:**
- Lectures : six per week
- Student Seminars: two per week
- Assignments : The students will be asked to read the textbook in advance and write articles on given topics
- PowerPoint Presentations
- Participatory and Experiential Learning
- Quiz

**Program Learning Outcomes:**

- Distinguish between Operating Systems software and Application Systems   software.
- Describe commonly used operating systems.
- Identify the primary functions of an Operating System.
- Describe the "boot" process.
- Identify Desktop and Windows features.
- Use Utility programs.
- Discuss the pros and cons of the three major operating systems.

| Modes of Assessment | Minimum  Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** | | |
| | **40%** | **After Each Unit** |

| | | Every week |
|---|---|---|
| 1.Class Tests (Unit wise) | | |
| 2.Student Seminars | **40%** | **Last Week of September** |
| 3. In House Exams | | |
| **End of Semester Exam** | **40%** | **Last week of November onwards** |

## Teaching Outline:

| Unit | Teaching Dates |
|---|---|
| **I** | **13 Jan to 5 Feb** |
| **II** | **6 Feb to 1 Mar** |
| **III** | **1 Mar to 22 Mar** |
| **IV** | **23 Mar to  15 Apr** |
| **Revision** | **Till 30 Apr** |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## *References:*

13. Leland L. Beck: System Software, An Introduction to System Programming, Addison Wesley.
14. D.M. Dhamdhere: Introduction to System Software, Tata McGraw Hill.
15. D.M. Dhamdhere: System Software and Operating System, Tata McGraw Hill, 1992.
16. Madrich, Stuarte: Operating Systems, McGraw Hill, 1974.
17. Stern Nancy Assembler Language Programming for IBM and IBM Compatible Computers, John Wiley, 1991.

## CURRICULUM PLANNING AND IMPLEMENTATION
### Course Name: System Software

**Programme : BCA**

**Semester: IV**
**Name of the Teacher: Jaspreet Kaur Saini**
**Availability Timings: 9.00 AM to 3.30 PM**
**E-mail:** jassainicomputerlkc@gmail.com

**Objectives of the Course:** This course aims at acquainting students with learning the system software. What are the different types of system software used in a computer? Distinguish between system and application software's and their characteristics. Understanding the roles of various system softwares.

**Course Content:**
To teach system software and its components. Guide about various types of system softwares and their characteristics. Design of one pass and two pass assemblers and their working. To study about macro processors their definition and expansion and how to generation of unique labels. To study the phases of compilation that is lexical analysis and parsing and the characteristics of cross compilers. To study in detail various loader and linkage editors

**Detailed Course Contents: Available at** www.gndu.ac.in

**What will be the teaching methods:**
- Lectures : six per week
- Student Seminars: two per week
- Assignments : The students will be asked to read the textbook in advance and write articles on given topics
- PowerPoint Presentations
- Participatory and Experiential Learning
- Quiz

**Program Learning Outcomes:**

1. Distinguish between Operating Systems software and Application Systems software.
2. Describe commonly used operating systems.
3. Identify the primary functions of an Operating System.
4. Describe the "boot" process.
5. Identify Desktop and Windows features.
6. Use Utility programs.
7. Discuss the pros and cons of the three major operating systems.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)**<br><br>1.Class Tests (Unit wise)<br><br>2.Student Seminars<br><br>3. In House Exams | | |
| | 40% | After Each Unit |
| | | Every week |
| | 40% | Last Week of September |
| **End of Semester Exam** | 40% | Last week of November onwards |

## Teaching Outline:

| Unit | Teaching Dates |
|---|---|
| I | 13 Jan to 5 Feb |
| II | 6 Feb to 1 Mar |
| III | 1 Mar to 22 Mar |
| IV | 23 Mar to 15 Apr |
| Revision | Till 30 Apr |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## *References:*

18. Leland L. Beck: System Software, An Introduction to System Programming, Addison Wesley.
19. D.M. Dhamdhere: Introduction to System Software, Tata McGraw Hill.
20. D.M. Dhamdhere: System Software and Operating System, Tata McGraw Hill, 1992.
21. Madrich, Stuarte: Operating Systems, McGraw Hill, 1974.
22. Stern Nancy Assembler Language Programming for IBM and IBM Compatible Computers, John Wiley, 1991.

## CURRICULUM PLANNING AND IMPLEMENTATION
### PAPER – V, Lab: Data Structure Implementation using C++

**CLASS: BCA**
**Semester: IV**
**Name: SANDEEP BASSI**
**Email id:sbassicomputerlkc@gmail.com**

### Objectives of the Course:

1. To impart the basic concepts of data structures and algorithms
2. To understand concepts about searching and sorting techniques
3. To Understand basic concepts about stacks,queues,lists,trees and graphs
4. To understanding about writing algorithms and step by step approach in solving problems with the help of fundamental data structures

### Course Contents

**Course contents available on university website**
### Weekly Schedule:

| | |
|---|---|
| Week 1 & 2 | Implementation of various operations on 1-D and 2-D arrays |
| Week 3 | Implementation of one way linked list with different operations |
| Week 4 & 5 | Implementation of two way and circular linked list with different operations |
| Week 6 & 7 | Implement stack and various applications of stack |
| Week 8 & 9 | Implement queue and circular queue |
| Week 10 | Implement BST with traversals |
| Week 11 & 12 | Implentation of Graph using Adjacency matrix |
| Week 13 | Searching Techniques |
| Week 14 | Sorting Techniques |

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: Web Designing and use of Internet (Lab)

**Programme : BCA**
**Semester: IV**
**Name of the Teacher: Ratnakar Mann**
**Availability Timings: 9.00 AM to 3.30 PM**
**E-mail:** ratnakarcomputerlkc@gmail.com

## Objectives of the Course :

This course is aimed at acquainting students with designing websites using HTML, DHTML, CSS and Javascript. HTML and CSS go hand in hand for developing flexible, attractively and user friendly websites. HTML (Hyper Text Markup Language) is used to show content on the page where as CSS is used for presenting the page. HTML describes the structure of a Website semantically along with presentation cues, making it a mark-up language, rather than a programming language. HTML allows images and objects to be embedded and can be used to create interactive forms.

## Course Content:

The course aims to give hands on practical training to students to develop websites on their own, to construct web pages, insert images and hyperlinks, insert tables, construct forms and frames, applying CSS to webpages and to add dynamicity to websites by writing javascript code in the webpages.

## Detailed Course Contents: Available at www.gndu.ac.in

## What will be the teaching methods:
 Practical Detailed  Lab Sessions on constructing static and dynamic websites.

## Program Learning Outcomes:

**Students will learn how to :**

- **Use different  tags of HTML to construct web sites.**

- **Understand anatomy of a web page.**

- **Design and upload websites on server.**

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (Unit wise) 2.Student Seminars 3. In House Exams | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **Last Week of March** |
| **End of Semester Exam** | **40%** | **Last week of April onwards** |

## Lab Tutorial Outline :

| Module | Topics | Teaching Dates |
|---|---|---|
| Module 1: Web Programming Introduction | • Basic introduction to web development. • The fundamental technology used to define the structure of a webpage. | 11 Jan – 17Jan 2019 |
| Module 2: HTML-Introduction | • History of HTML • Constructing first HTML page What are HTML Tags and Attributes? • HTML Attributes • How to differentiate HTML Document Versions | 18Jan - 25Jan |

| Module | Topics | Dates |
|---|---|---|
| Module 3: HTML-Basic Formatting Tags | • HTML Basic Tags<br>• HTML Formatting Tags<br>• HTML Color Coding | 27Jan – 2Feb |
| Module 4: HTML-Lists | • Unordered Lists<br>• Ordered Lists<br>• Definition list | 4 Feb – 9 Feb |
| Module 5: HTML-Images | • Image and Image Mapping | 11Feb – 15Feb |
| Module 6: HTML-Hyperlink | • URL - Uniform Resource Locator<br>• <a> tag | 16 Feb – 21 Feb |
| Module 7: HTML-Table | • <table><br>• <tr><br>• <td><br>• <th><br>• <rowspan><br>• <colspan> | 22Feb- 28Feb |
| Module 9: HTML-frame | • <frameset> | 1Mar-5Mar |
| Module 10: HTML-Form | • <form> with all attributes | 6Mar-12Mar |
| Module 11: CSS-Introduction | • Benefits of CSS<br>• CSS Versions<br>• CSS Syntax<br>• Single Style Sheet<br>• External Style Sheet<br>• Multiple Style Sheets | 13 Mar-25Mar |
| Module 12 : Javascript | • Javascript Programming | 26Mar-5Apr |
| Module 13 : Designing own website | Practical Assignment for students to develop their own websites using all tags learnt during the course. | 6 Apr-20 Apr |
| Revision | | 21 April onwards |

**Attendance Policy**

Lab attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## Text Book(s):

Internet Applications – Unimax Publications
## References :

1. "Understanding The Internet", Kieth Sutherland, Butterworth-Heinemann.

2. "Internet Technologies", S. K. Bansal, APH Publishing Corporation

3. "Data Communications and Networking", Behrouz A. Forouzan

**CURRICULUM PLANNING AND IMPLEMENTATION**

**Subject Name: WEB DESIGINING & INTERNET APPLICATIONS**

**Programme : BCA-IV**

**Name of the Teacher: GAGANDEEP SINGH**

**E-mail: gagancomputerlkc@gmail.com**

**Objectives:**

- The primary goal is to prepare students for full knowelege of internet its application and working of Internet
- To get good knowledge of internet protocol,working of all protocols
- Also you can learn how to design web pages in HTML practically.

**Course Content**

- This course explains internet its applications protocols etc.
- The course also includes all basic means of HTML and introduction to Intranet and Extranet.

**Planning and Implementation of the curriculum**

| Week 1 & 2 | Introduction : About internet and its working ,Services effect by internet,evaluation of Internet, Internet Service Provider(ISP), |
|---|---|

| Week 3 | windows environment for dial up networking (connecting to internet), audioon internet, internet addressing (DNS) and IP addresses. advantages and disadvantages of internet |
|---|---|
| Week 4 & 5 | E–Mail Basic Introduction, advantage and disadvantage, structure of an email message, working of e–mail (sending and receiving messages), managing email (creating new folder, deleting    messages, forwarding messages, filtering messages, implementation of outlook express. |
| Week 6 & 7 | WWW introduction, working of WWW, Web browsing (opening, viewing, saving and printing a web page and bookmark) |
| Week 8 & 9 | Search engine: About search engine, component of search engine, working of search engine,difference between search engine and web directory. |
| Week 10 | Internet protocol Introduction, tile transfer protocol (FTP), Gopher, Telnet, other protocols like HTTP and TCP/IP. |
| Week 11 & 12 | Internet and extranet: Introduction, application of intranet, business value of intranet ,working of intranet, role of extranet, working of extranet, difference between intranet and extranet. |
| Week 13 | Web designing using HTML, DHTML with programming techniques |
| Week 14 | Uploading the Website, Domain Name |

<div align="center">

**CURRICULUM PLANNING AND IMPLEMENTATION**

**Course Name: Software Engineering**

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**Programme : BCA**
**Semester: VI**
**Name of the Teacher: ___NEETI PAL_____**
**Availability Timings: 9.00 AM to 3.30 PM**
**E-mail: neeticomputerlkc@gmail.com**

## Objectives of the Course:

- This course introduces the concepts and methods required for the construction of large software intensive systems. It aims to develop a broad understanding of the discipline of software engineering.
- It seeks to complement this with a detailed knowledge of techniques for the analysis and design of complex software intensive systems. It aims to set these techniques in an appropriate engineering and management context.
- It provides a brief account of associated professional and legal issues.

## Course Content:

The course provides an introduction to the term software, its components and applications. It explores the software as Engineering and its various models. It provides knowledge about software metrics and its roles. It emphasis on SRS, planning software project, system design and its principles. Detailed design by specifying the modules, coding, testing and level of testing.

## Detailed Course Contents:

## UNIT – I

1. Introduction to Software: Definition, Software characteristics, Software components,Software Applications.

2. Introduction to Software Engineering: Definition, Software Engineering Paradigms,waterfall method, prototyping, interactive Enhancement, The Spiral model, FourthGeneration Technique.

3. Software Metrics: Role of Metrics and measurement, Metrics for software productivity and quality, Measurement software, size–oriented metrics, function oriented metrics, Metrics for software quality.

## UNIT – II

4. Software Requirement Specification (SRS): Problem analysis, structuring information,Data flow diagram and data dictionary, structured analysis, Characteristics and component of(SRS).

5. Planning a Software Project: Cost estimation, uncertainties in cost estimation, Singlevariable model, COCOMO model, On software size estimation, Project scheduling and milestones, Software & Personal Planning, Rayleigh curve, Personal Plan, Quality AssurancePlan, Verification & Validation (V & V), inspection & review.

6. System Design: Design Objectives, Design Principles, problem, Partitioning, Abstraction,Top Down and Bottom–up techniques, Structure Design, Structure Charts, DesignMethodology, Design Review, Automated Cross Checking, Matrix, total number of modular,number of parameters.

## UNIT – III

7. Detailed Design: Module specification, Specifying functional module, specifying data abstraction, PDL and Logic/Algorithim Design.

8. Coding: Coding by Top–down and Bottom–up, Structured Programming, Information Hiding, Programming style, Internal Documentation.

9. Testing: Level of testing, Test cases and test criteria, Functional Testing, Structural Testing.

References:

1. Software Engineering, Roger S. Pressman.

2. Integrated Approach to Software Engineering, Pankaj Jalote.

**What will be the teaching methods:**
- Lectures : six per week
- Student Seminars: two per week
- Assignments : The students will understand the concepts taught in the class and implement it with real world applications(practical based)
- Powerpoint Presentations
- Multiple choice questions.
- Students are asked to discuss previous question papers in class and prepare themselves for final exams.

**Program Learning Outcomes:**

**(Knowledge and Understanding, Intellectual Skills, practical Skills, Transferable skills).**

**Learning Outcomes:**

After completing the course attendees will able to:

- Understanding the issues affecting the organization , planning, control of software-based systems development.
- Complete the analysis and design of software intensive systems.
- Read and understand the professional and technical literature on software engineering.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (Unit wise) 2.Student Seminars 3. In House Exams | | |
| | 40% | After Each Unit |
| | | Every week |
| | 40% | Last Week of March |
| **End of Semester Exam** | 40% | Last week of April onwards |

**Teaching Outline:**

| Unit | Teaching Dates |
|---|---|
| I | 11 Jan to 3 Feb |
| II | 04 Feb to  02  March |
| III | 03 March to 24  April |
| Revision | Till 31 April |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

**Text Book(s):**

1. Software Engineering, Roger S. Pressman.

2. Integrated Approach to Software Engineering, Pankaj Jalote.

*References/ E-resources*

- *https://www.tutorialspoint.com/software_engineering/*

- *https://www.geeksforgeeks.org/software-engineering/*

- *https://www.youtube.com/watch?v=sB2iQSvrcG0*


**CURRICULUM PLANNING AND IMPLEMENTATION**

**Course Name: Paper – III: Lab:Implementation of Applications of Computer Graphics in C++/C**

**Programme : BCA**
**Semester: VI**
**Name of the Teacher: ___NEETI PAL_____**
**Availability Timings: 9.00 AM to 3.30 PM**
**E-mail: neeticomputerlkc@gmail.com**

# Objectives of the Course:

- To provide comprehensive introduction about computer graphics system, design algorithms and two dimensional transformations.
- To make the students familiar with techniques of clipping, three dimensional graphics and three dimensional transformations.

The computer graphics course prepares students for activities involving in design, development and testing of modelling, shading and animation.

# Course Content:

Elementary Drawing: Points and various line drawing Algorithms and their comparisons. Circle generating algorithms, Algorithms for ellipse, arc and spiral. Two Dimensional Transformations: Basic Transformations, Scaling, Translation, Rotation, Reflection, Shear, Matrix representation of Basic transformations and homogenous coordinates. : C programming for drawing 2 D objects – line rectangle, arc, circle and ellipse. C Programming for 2–D and 3–D transformations.

.

# Detailed Course Contents: Lab: Implementation of Applications of Computer Graphics in C++/C

### UNIT – I
1. Overview of Graphics system: Computer Graphics and their applications.
2. Display Devices: CRT Monitors (Random – Scan and Raster Scan, DVST, Plasma – Panel Display, LED and LCD Monitors.
3. Graphics Software.

### UNIT – II
4. Elementary Drawing: Points and various line drawing Algorithms and their comparisons. Circle generating algorithms, Algorithms for ellipse, arc and spiral
5. Two Dimensional Transformations: Basic Transformations, Scaling, Translation, Rotation, Reflection, Shear, Matrix representation of Basic transformations and homogenous coordinates.

### UNIT – III

6. Composite Transformations: Windowing and clipping. Windowing concepts, clipping and its algorithms. Window–to–view port transformations. Three Dimensional concepts. 3 D Coordinate Systems. 3 transformations. translation, scaling, rotation, projections, parallel projections. Perspective projection.

7. Implementation in C: C programming for drawing 2 D objects – line rectangle, arc, circle and ellipse. C Programming for 2–D and 3–D transformations.

References:
1. Computer Graphics by Donal Hearn M. Pardive Baker (PHI) Easter Economy Edition.
2. Computer Graphics by Roy A. Plastock and Gordon Kalley – Schaum's Series.
3. Computer Graphics by Marc Berger.

**What will be the teaching methods:**
- Lectures : six per week

- Assignments : Students are asked to submit their lab assignment at the end of each  practical.
- Powerpoint Presentations
- Participatory and Experiential Learning

- Hand on sessions.

**Program Learning Outcomes:**

**(Knowledge and Understanding, Intellectual Skills, practical Skills, Transferable skills).**

**Learning Outcomes:**
- Critical understanding of the theory of 2D and 3D transformations, projection and viewing

- Ability to find & combine relevant sources and synthesise designs

- Detailed knowledge of the graphics pipeline

- Detailed knowledge of shading and texture mapping algorithms

- Broad knowledge of 3D modelling and rendering techniques

- Ability to understand, design and implement scene graphs

- Practical skills in graphics programming including scene graph programming and I/O processing

**Teaching Outline:**

| Unit | Teaching Dates |
|------|----------------|
| I | 15 Jan to 25 Jan |
| II | 26 Jan to 23 March |
| III | 24 March to 15 April |
| Revision | Till 30 April |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

*References:* **Text Book(s):**

- Computer Graphics by Donal Hearn M. Pardive Baker (PHI) Easter Economy Edition.

- Introduction to Computer Graphics by David J. Eck

- Introduction to Computer Graphics: A Practical Learning Approach by Fabio Ganovelli, Massimiliano Corsini, Sumanta Pattanaik, Marco Di Benedetto.

**E- resources** :

1. https://annauniversityplus.com/plus/attachment.php?aid=1648

2. http://studentsfocus.com/wp-content/uploads/anna_univ/CSE/5SEM/CS6513%20-%20CG%20Lab/computer%20and%20graphics%20lab%20file%20with%20manual_2013_regulation.pdf

3. https://www.academia.edu/26774591/Computer_Graphics_Lab_Manual

4. https://engineerportal.blogspot.com/2012/10/computer-graphics-lab-complete-manual.html

5. http://math.hws.edu/eck/cs424/downloads/graphicsbook-linked.pdf

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: B Design Multimedia (BDMM)

**Programme: Theory of Media (Print Media & Scriptwriting)**
**Semester: II**
**Name of the Teacher: Shilpa Sharma**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  shilpacomputerlkc@gmail.com**

## Objectives of the Course:

The course training aims to equip its students with the relevant practical knowledge required in the field of print media journalism and mass communication. In simple words, one would be able to gain the in-depth experience on how to communicate with the masses through print media like newspapers, magazines, etc. Also another way to learn about Media that is the purpose of the course is to learn about film &television screenplay structure, analyze dramatic strategies in film and television, learn and apply correct script form, and creatively engage in the various stages of original scriptwriting.

## Course Content:

The course provides an introduction about
**One Unit:** Print Media
**Two Unit:** Types of Modern Printing
**Three Unit:** Printing Plates and Processes
**Four Unit:** Script Writing
**Fifth Unit:** Printing Process

## Detailed Course Contents: Available at  www.gndu.ac.in

## What will be the teaching methods:

- Lectures : Six days per week of theory
- Discussion after completion of topic

## Program Learning Outcomes:

Knowledge & Understanding

- Knowledge about Printing and Print Media.
- Knowledge about working in Printing Plates like Magazine, Display Ads.
- Knowledge about Script Writing about Films, Documentaries.

| Modes of Assessment | Minimum Score Required (to | Schedule |
|---|---|---|

| | Qualify for the Next Exam/Class) | |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (Unit wise) 2. Assignments | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **After Each Unit** |
| **End of Semester Exam** | **40%** | **Last week of April** |

**Teaching Outline:**

| Unit/Section | Teaching Dates |
|---|---|
| I | 11$^{th}$ Jan. to 24$^{th}$ Jan. |
| II | 25$^{th}$ Jan. to 15$^{th}$ Feb. |
| III | 16$^{th}$ Feb. to 15$^{th}$ March. |
| IV | 16$^{th}$ March. to 22$^{th}$ March. |
| V | 23$^{rd}$ March. to 11$^{th}$ April. |
| Revision | Till exam |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

**CURRICULUM PLANNING AND IMPLEMENTATION**

**Course Name: Workshop II (Photography & Adobe Lightroom)**

**Programme: B.D.M.M**
**Semester: II**
**Name of the Teacher: Harpreet Singh**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  harpreet.computerlkc@gmail.com**

**Objectives of the Course:**

This course is based on to teach students about Photography and photo editing. This course benefits to those who want to learn or improve their photography skills and editing skills. This course covers a vast number of topics which benefits all of the students who are in this course. topics like, Camera types,

lenses and its types, aperture, ISO, Shutter speed, focal length, Editing in Adobe Lightroom, Color correction of photo, white balance and a lot more. Students get to use camera to take photographs and will use Adobe Lightroom to edit and color grade pictures they click,

**Course Content:**
This course covers a variety of different and interesting topics like:

**Photography:** Types of camera, handling of camera, understanding camera angles, camera parts, compositions, fashion photography, street photography, Black and white Photography, Camera Lenses, working of lenses, Focal length, camera parts etc.

**Adobe Lightroom:** Introduction, Lightroom interface, panels, film strip, settings, keyboard shortcuts, Import and export, quick development mode, user collections, workflow etc.

**Detailed Course Contents: Available at:** www.gndu.ac.in

**What will be the teaching methods:**
- Lectures : six per week
- Assignments: Students be given assignments to click and edit photographs

**Program Learning Outcomes:**

**R. Knowledge and Understanding):**
Students will
- get to learn what is camera and its working
- understand different types of camera and lenses used
- learn how to handle and use camera to take photographs
- get knowledge about ISO, aperture, shutter speed, white balance etc.
- know about different photography styles like street, indoor, outdoor, fashion and black & white photography
- learn to edit photographs using software adobe lightroom.
- get to know how to edit and color grade their photos

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| Continuous Internal Evaluation(CIE) 1.Class Tests (section wise) 2.Student Seminars 3. In House Exams | | |
| | 40% | After Each Section |
| | | Every week |
| | 40% | Last Week of September |
| End of Semester Exam | 40% | Last week of November onwards |

**Teaching Outline:**

| Section | Teaching Dates |
|---|---|
| I | 16 January to 30 January |
| II | 1 February to 29 February |
| III | 2 to 21 March |
| IV | 23 March to 7 April |
| Revision | Till Exams |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## CURRICULUM PLANNING AND IMPLEMENTATION

### Course Name: Adobe Illustrator

**Programme : BDMM**
**Semester: II**
**Name of the Teacher: Bharat Sharma**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  bharat.computerlkc@gmail.com**

## Objectives of the Course:

This course aims at teaching students about the basic techniques of designing the vector as well as raster graphics. Explain the whole process of designing to till printing. Explain the components of software.

## Course Content:

It Introduction, Managing windows & panels, Toolbox, Document window, Tool Bar Palettes Grid & Guideline Ruler Setting Paths–with all options

## Detailed Course Contents: Available at:  www.gndu.ac.in

## What will be the teaching methods:

- Lectures : six per week
- Student Seminars: 1 per week
- Assignments: The students will be asked to study the notes provided & class test will be conducted.
- PowerPoint Presentations

## Program Learning Outcomes:

## Learning Outcomes:

### S. Knowledge and Understanding):

Students will

- Learn about the Software.
- Learn about the Different types of design.
- Learn about the Filters & Layers.
- Learn about Difference between Vector Graphics and Bitmap Graphics.
- Learn about Tool Bar, Palettes, Grid & Guideline
- Learn about Importing & Exporting of images & supported files

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| Continuous Internal Evaluation(CIE) | | |
| | 40% | After Each Section |

| | | Every week |
|---|---|---|
| 1.Class Tests (section wise) | | |
| 2.Student Seminars | **40%** | **Last Week of September** |
| 3. In House Exams | | |
| **End of Semester Exam** | **40%** | **Last week of November onwards** |

**Teaching Outline:**

| Section | Teaching Dates |
|---|---|
| **I** | **15 January to 18 February** |
| **II** | **19 February to  4 March** |
| **III** | **5 March to 28 March** |
| **IV** | **30 March to 20 April** |
| **Revision** | **Till Exams** |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## CURRICULUM PLANNING AND IMPLEMENTATION

### Course Name: Drug Abuse: Problem, Management and Prevention

**Programme: BCA, B.Sc. IT, B.Voc. SD, B.Voc. PT, BAJMC, BDMM**
**Semester: II**
**Name of the Teacher: ShefaliTaneja**
**Availability Timings: 9.00 AM to 3.30 PM**
**E-mail:  shefalilkc@gmail.com**

**Objectives of the Course:**

This course aims at acquainting students with management and prevention of drug abuse. It aims to teach students various preventive strategies and controlling techniques of drug abuse.

**Course Content:**

The course provides an introduction to various preventive and controlling techniques of drug abuse. It focuses on the role of family, school, media and legislation in prevention of drug abuse. The course examines these strategies

and aims to teach students on how to practically use these techniques that help in dealing with drug addiction/abuse.

**Detailed Course Contents: Available at** www.gndu.ac.in

**What will be the teaching methods:**
- Lectures : three per week
- Student Seminars: one per week
- Two assignments will be given in a month based on the topics covered
- Power-point Presentations
- Participatory and Experiential Learning

**Program Learning Outcomes:**

25. Students will understand about various preventive strategies of drug abuse.
26. They will have deeper knowledge of how to control drug abuse.
27. Students will be able to identify which technique is best suitable for each and every person who abuse drugs.
28. They will understand about how family plays an important role in prevention of drug abuse.
29. Students will have knowledge about counseling and how it can be provided in schools to prevent drug abuse.
30. Apart from these preventive measures, students will gain knowledge about how media can play an important role in controlling drug abuse.
31. The course will help in spreading awareness about how legislation can play a vital role in controlling drug abuse.
32. Students will be able to implement these strategies in real life and help those who abuse drugs.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (Unit wise) 2.Student Seminars | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **Last Week of** |

| | | |
|---|---|---|
| 3. In House Exams | | September |
| **End of Semester Exam** | **40%** | **Last week of November onwards** |

## Teaching Outline:

| Unit | Teaching Dates |
|---|---|
| **I** | **11 January to 05 February** |
| **II** | **06 February to 29 February** |
| **III** | **02 March to 25 March** |
| **IV** | **26 March to 18 April** |
| **Revision** | **Till 30 April** |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## Text Book(s):

Kishore, K. (2018). Drug Abuse: Problem, Management and Prevention. New Delhi: Modern Publishers.

## *References:*

1. Ahuja, Ram (2003), Social Problems in India, Rawat Publication, Jaipur.

2. Extent, Pattern and Trend of Drug Use in India, Ministry of Social Justice and Empowerment, Government of India, 2004.

3. Inciardi, J.A. 1981. The Drug Crime Connection. Beverly Hills: Sage Publications.

4. Kapoor. T. (1985) Drug epidemic among Indian Youth, New Delhi: Mittal Pub.

5. Kessel, Neil and Henry Walton. 1982, Alcohalism.Harmond Worth: Penguin Books.

6. Modi, Ishwar and Modi, Shalini (1997) Drugs: Addiction and Prevention, Jaipur: Rawat Publication.

7. National Household Survey of Alcohol and Drug abuse. (2003) New Delhi, Clinical Epidemiological Unit, All India Institute of Medical Sciences, 2004.

8. Ross Coomber and Others. 2013, Key Concept in Drugs and Society. New Delhi: Sage Publications.

9. Sain, Bhim 1991, Drug Addiction Alcoholism, Smoking obscenity New Delhi: Mittal Publications.

10. Sandhu, Ranvinder Singh, 2009, Drug Addiction in Punjab: A Sociological Study. Amritsar: Guru Nanak Dev University.

11. Singh, Chandra Paul 2000. Alcohol and Dependence among Industrial Workers: Delhi: Shipra.

12. Sussman, S and Ames, S.L. (2008). Drug Abuse: Concepts, Prevention and Cessation, Cambridge University Press.

### E- resources

- Verma, P.S. 2017, "Punjab's Drug Problem: Contours and Characterstics", Economic and Political Weekly, Vol. LII, No. 3, P.P. 40-43.

- World Drug Report 2016, United Nations office of Drug and Crime.

- World Drug Report 2017, United Nations office of Drug and Crime.

# CURRICULUM PLANNING AND IMPLEMENTATION
## Course Name: B design Multimedia (BDM)

**Programme : Introduction to 3D - II**
**Semester: II**
**Name of the Teacher: Retinder Kaur**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail: retindercomputerlkc@gmail.com**

## Objectives of the Course:
This course aims at learning of 3D tool (Maya) in practical way. In this tool work on Nodes, Shaders, Animation with complete knowledge of Keyframes and Graph editor , Uv's and Textures and Lighting. In the course, also work on Photoshop with 3D content.

## Course Content:
The course provides an introduction about
- Working of Hierarchy in this work on Nodes and Parent and Children Command.
- Understanding about Shading concepts about shaders, material, difference between them. Basic types of shaders those are used in shading of objects.
- Knowledge about Animation and understanding of Keyframes, Frames and In betweens . How they can use to create fine animation.
- Knowledge about UV's and work of it while applying textures on any object.

- Working on Camera with proper detail and work on interior/exterior scene.
- Working on Basics lights those are used in scenes. Knowledge about various types of lights.
- Working on Photoshop related with 3D Models and textures.

**Detailed Course Contents: Available at** www.gndu.ac.in

**What will be the teaching methods:**
- Lectures : Six per week
- Assignments : Weekly Assignments
- Practical work

**Program Learning Outcomes:**
Practical Assignments:
- Assignment based on Parent and Child Command using hierarchy and nodes.
- Create an object and apply texture/shader on it using uv's.
- Create an animation of any object (Ball, Walk , Run) using keyframes and graph editor.
- Create interior scene of Room and work on lighting in it based on morning, afternoon or evening time. Camera should also apply.

Written file assignment:
- Knowledge about 2D and 3D modeling.
- Understanding of Hierarchy
- Nodes
- Purpose to use Parent and Child command
- Understanding Shading
- Shaders and its type.
- Animation and its types.
- UV's and how to used it.
- Camera
- Textures
- Lights: Spot light, Area light, Directional light.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)**<br><br>1.Class Tests (Unit wise)<br><br>2.Assignments<br><br>3. Discussion | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **After Each Unit** |
| **End of Semester Exam** | **40%** | **Last week of April** |

## Teaching Outline:

| Unit | Teaching Dates |
|---|---|
| I | 15$^{th}$ Jan. to 24$^{nd}$ Jan. |
| II | 25$^{th}$ Jan. to 3$^{rd}$ Feb. |
| III | 4$^{th}$ Feb. to 12$^{th}$ Feb. |
| IV | 13$^{th}$ Feb. to 22$^{nd}$ Feb. |
| V | 23$^{rd}$ Feb. to 10$^{th}$ March |
| VI | 11$^{th}$ March to 21$^{st}$ March |
| VII | 22$^{nd}$ March to 4$^{th}$ April |
| Practical Practice | Till Exams |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## Text Book(s):

Richard William, *The Animator's Survival Kit (e- book)*

## *References:*

23.Richard William, *The Animator's Survival Kit (e- book)*

### E- resources

https:// www.floobynooby.com/pdfs/The_Animators_Survival_Kit.pdf

# CURRICULUM PLANNING AND IMPLEMENTATION
## Course Name: B Design Multimedia (BDM)

**Programme : Flash**
**Semester: IV**
**Name of the Teacher:**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  retindercomputerlkc@gmail.com**

## Objectives of the Course:

This course aims at learning of Flash. In this students come to know how graphics can create; 2D animation can do and also do work of website buttons and pages. In the software student can learn basic knowledge of animation with work on timeline. In flash software student can learn to design cartoon characters, buttons etc. along with work on library.

## Course Content:

The course provides an introduction about

- In first section Learn about Animation Fundamentals in which Introduction, History, Systems, Techniques, managing windows & panels, Toolbox of flash.
- Second Section is about work on Drawing in Flash such as Working with objects Using Primary drawing tools and Working with selection tools ,Creating lines, choosing line styles Drawing panels Symbols & instances.
- Third Section is about Working with colors & text in which work on Color basics, Color panels, Color mixer panels etc. Text field types Text tool, Font Export & Display, Font symbols and Modifying text.
- Fourth section is about Basic knowledge of  Flash Movies, Actions & Event Handlers, Making Actions happen with Event handlers
- Fifth section in this learn about Graphics & 2D Animation, Working with Graphics, Animation software, Flash Symbols, Working with Libraries along with work on Basic methods of Flash Animation Frame–by–Frame Animation, Modifying multiframe sequences Tweening, Integrating multiple Animation systems
- Sixth section is about Character Animation Techniques, work on Storyboard, Cartoon Animation Basics with Animation Keys & in Betweening, Using Tweening for animation, and create Backgrounds & Scenery in software.
- Seventh section is working on Integrating Media Files with Flash Adding sound, Importing Sounds to Flash Synchronizing Audio to animations Stopping sounds, Editing Audio in Flash

- Eighth section is all about Embedding video, Preparing a video file and Importing the video, Publishing Flash movies with video and Using Sorenson Squeeze for Flash video
- Ninth section is Integrating Flash contents with HTML Writing Markup for Flash movies Detecting Flash player, Using Flash movies with JavaScript & DHTML
- Tenth section is about Action Script, Breaking down interactive process, Basic context for Programming in Flash, Action script variables, Declaring variables in Action script Creating expression in Action script and Make a login sequences with variables.
- Eleventh section is Controlling Movie clips and its overview Properties & methods Working with Movie Clip Properties, Creating Draggable Movie Clips
- Twelfth section is Using Function and Arrays What are Data Types? Overview of Functions as procedures Managing related Data: The Array object Creating Dynamic Reusable Flash Menu Functions as Methods of Objects Functions as Constructors of Object.
- Thirteen section is about Interacting with Movie Clips,Movie Clip Collision Detection UsingMouse Object ManipulatingColour Attributes,Enabling Sound with Action Script and Printing with action Script
- Fourteen section is Sharing & LoadingAssets, Managing SmoothMovie Download& Display Pre Loading a Flash Movie, Loading Flash Movie, Loading JPEG Images in to Flash Movie Loading MP3 Audio into Flash Movie Assessing and Items in Shared Libraries
- Fifteen section is Optimizing and Trouble Shooting Flash Movies, Dealing with Problematic Elements Flash Deployment and Data Types Optimizing and Pre-Loading,Vector ArtWork Bitmap Graphics with Using the Load Movie Action with Preloading Techniques Using Shared Libraries Optimization Tips Advanced Techniques.
- Sixteen Section is Solving Problems in Movies, Defining Streaming Media, Using the output Window: Knowing the Flash MX Debugger Panel Assigning Breakpoints, Debugging a Flash Movie Re motel and Troubleshooting Guideline.

**Detailed Course Contents: Available at** www.gndu.ac.in

**What will be the teaching methods:**
- Lectures : Three days per week of practical practices
- Assignments : Assignments after completion of topic
- Practical practice

## Program Learning Outcomes:

Practical Written file Assignments:

1. Create basic shapes and used tweening on it.
2. Create a Cartoon Character
3. Create a animation using motion path such as butterfly animation
4. Create different -2 expression of your character's face that you already create in software
5. Create lipsing using audio
6. Create animation using timeline and follows principles of animation
7. Create Buttons and apply action script such as start, pause and stop etc.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (Unit wise) 2.Assignments 3. Discussion | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **After Each Unit** |
| **End of Semester Exam** | **40%** | **Last week of April** |
| | | |

## Teaching Outline:

| Unit/Section | Teaching Dates |
|---|---|
| I | 15$^{th}$ Jan. to 20$^{th}$ Jan. |
| II | 21$^{st}$ Jan. to 25$^{th}$ Jan. |
| III | 27$^{th}$ Jan. to 1$^{st}$ Feb. |
| IV | 3$^{rd}$ Feb. to 7$^{th}$ Feb. |
| V | 8$^{th}$ Feb. to 14$^{th}$ Feb. |
| VI | 15$^{th}$ Feb. to 21$^{st}$ Feb. |
| VII | 22$^{nd}$ Feb. to 26$^{th}$ Feb. |
| VIII | 27$^{th}$ Feb. to 3$^{rd}$ March |
| IX | 4$^{th}$ March to 9$^{th}$ March |
| X | 10$^{th}$ March to 14$^{th}$ March |

| XI | 16<sup>th</sup> March to 20<sup>th</sup> March |
|---|---|
| XII | 21<sup>st</sup> March to 26<sup>th</sup> March |
| XIII | 27<sup>th</sup> March to 1<sup>st</sup> April |
| XIV | 2<sup>nd</sup> April to 6<sup>th</sup> April |
| XV | 7<sup>th</sup> April to 11<sup>th</sup> April |
| XVI | 13<sup>th</sup> April to 18<sup>th</sup> April |
| **Project and Assignments** | **Till Exams** |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## References

1. "Adobe Flash Professional CS6 Classroom in a Book", Adobe.
2. Georgenes Chris "How to Cheat in Adobe Flash CC: The Art of Design and Animation". Focal Press

## CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: B Design Multimedia (BDM)

**Programme : Flash**
**Semester: IV**
**Name of the Teacher:**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  retindercomputerlkc@gmail.com**

## Objectives of the Course:

This course aims at learning of Flash is that students come to know how graphics can create; 2D animation can do and also do work of website buttons and pages. In the software student can learn basic knowledge of animation with work on timeline. In flash software student can learn to design cartoon characters, buttons etc. along with work on library.

## Course Content:

The course provides an introduction about

* In first section   Learn about Animation Fundamentals in which Introduction, History, Systems, Techniques, managing windows & panels, Toolbox of flash.

- Second Section is about work on Drawing in Flash such as Working with objects Using Primary drawing tools and Working with selection tools ,Creating lines, choosing line styles Drawing panels Symbols & instances.
- Third Section is about working with colors & text in which work on Color basics, Color panels, Color mixer panels etc. Text field types Text tool, Font Export & Display, Font symbols and Modifying text.
- Fourth section is about Basic knowledge of Flash Movies, Actions & Event Handlers, Making Actions happen with Event handlers
- Fifth section in this learn about Graphics & 2D Animation, Working with Graphics, Animation software, Flash Symbols, Working with Libraries along with work on Basic methods of Flash Animation Frame–by–Frame Animation, Modifying multiframe sequences Tweening, Integrating multiple Animation systems
- Sixth section is about Character Animation Techniques, work on Storyboard, Cartoon Animation Basics with Animation Keys & in Betweening, Using Tweening for animation, and create Backgrounds & Scenery in software.
- Seventh section is working on Integrating Media Files with Flash Adding sound, Importing Sounds to Flash Synchronizing Audio to animations Stopping sounds, Editing Audio in Flash
- Eighth section is all about Embedding video, Preparing a video file and Importing the video, Publishing Flash movies with video and Using Sorenson Squeeze for Flash video
- Ninth section is Integrating Flash contents with HTML Writing Markup for Flash movies Detecting Flash player, Using Flash movies with JavaScript & DHTML
- Tenth section is about Action Script, Breaking down interactive process, Basic context for Programming in Flash, Action script variables, Declaring variables in Action script Creating expression in Action script and Make a login sequences with variables.
- Eleventh section is Controlling Movie clips and its overview Properties & methods Working with Movie Clip Properties, Creating Draggable Movie Clips
- Twelfth section is Using Function and Arrays What are Data Types? Overview of Functions as procedures Managing related Data: The Array object Creating Dynamic Reusable Flash Menu Functions as Methods of Objects Functions as Constructors of Object.
- Thirteen section is about Interacting with Movie Clips,Movie Clip Collision Detection UsingMouse Object ManipulatingColour Attributes,Enabling Sound with Action Script and Printing with action Script
- Fourteen section is Sharing & LoadingAssets, Managing SmoothMovie Download& Display Pre Loading a Flash Movie, Loading Flash Movie,

Loading JPEG Images in to Flash Movie Loading MP3 Audio into Flash Movie Assessing and Items in Shared Libraries

- Fifteen section is Optimizing and Trouble Shooting Flash Movies, Dealing with Problematic Elements Flash Deployment and Data Types Optimizing and Pre-Loading,Vector ArtWork Bitmap Graphics with Using the Load Movie Action with Preloading Techniques Using Shared Libraries Optimization Tips Advanced Techniques.

- Sixteen Section is Solving Problems in Movies, Defining Streaming Media, Using the output Window: Knowing the Flash MX Debugger Panel Assigning Breakpoints, Debugging a Flash Movie Re motel and Troubleshooting Guideline.

## Detailed Course Contents: Available at www.gndu.ac.in

## What will be the teaching methods:
- Lectures : Three days per week
- Discussion after completion of topic

## Program Learning Outcomes:
Knowledge & Understanding

- Know about work on Graphics and Motion Graphics
- Know about to work on animation with timeline
- Know about to design character in 2D with animation
- Know about how to work on Action Script and apply script on buttons
- Work on handling the Camera in 3D
- Learn about to create and work on library
- Work on audio in which import the audio and work on it.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (Unit wise) 2. Discussion and doubt session | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **After Each Unit** |
| **End of Semester Exam** | **40%** | **Last week of April** |

**Teaching Outline:**

| Unit/Section | Teaching Dates |
|---|---|
| I | 17$^{th}$ July to 19$^{th}$ July |
| II | 20$^{rd}$ July to 23$^{rd}$ July |
| III | 24$^{th}$ July to 26$^{th}$ July |
| IV | 27$^{th}$ July to 29$^{th}$ July |
| V | 30$^{th}$ July to 7$^{th}$ August |
| VI | 8$^{th}$ August to 11$^{th}$ August |
| VII | 13$^{th}$ August to 18$^{th}$ August |
| VIII | 20$^{th}$ August to 25$^{th}$ August |
| IX | 27$^{th}$ August to 31$^{st}$ August |
| X | 1$^{st}$ September to 10$^{th}$ September |
| XI | 11$^{th}$ September to 17$^{th}$ September |
| XII | 18$^{th}$ September to 25$^{th}$ September |
| XIII | 26$^{th}$ September to 3$^{rd}$ October |
| XIV | 4$^{th}$ October to 12$^{th}$ October |
| XV | 15$^{th}$ October to 19$^{th}$ October |
| XVI | 22$^{nd}$ October to 27$^{th}$ October |
| Revision | Till Exams |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## CURRICULUM PLANNING AND IMPLEMENTATION

### Course Name:Paper-II PHP(lab)

**Programme : BMM**
**Semester: IV**
**Name of the Teacher: Jaskiran Kaur**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:** jaskirancomputerlkc@gmail.com

**Course Content:**

Unit I:Introduction to PHP Set up PHP, Variables, Echo/Print, Data Types, Strings, Constants, Arrays, Functions, Super global PHP Advanced: Multiple Arrays, Date and Time, Include files

File Handling, File Open/Close/Read, Cookies and Sessions. PHP Forms Working with HTML forms, Form Handling, Form Validation, Form Required.

Introduction to Database Creating Database, Insert Data into PHP, Create Tables, Insert Multiple data, Select Data, Delete Data, Update Data, Limit Data. Use any platform to create Database like MS-Access, MySQL etc.

## **Detailed Course Contents: Available at**

http://gndu.ac.in/syllabus/201819/VISPERF/B%20DESIGN%20MULTIMEDI A%20SEM%20I%20to%20VIII%202018-19.pdf

## **What will be the teaching methods:**

- Lectures : six per week
- Assignments : The students will be asked to prepare a practical file based on task done in class
- Powerpoint Presentations for syntax clarifications

## **Program Learning Outcomes:**

- Create PHP projects and earn money by selling them

## **Teaching Outline:**

### **List of Programs**

1. What do you understand by term PHP. Explain various steps to set up PHP.
2. What are various components of WAMP framework?
3. Explain the working and architecture of Apache Server.
4. WAP in PHP to print "Welcome To Hypertext PreProcessor".
5. WAP in PHP to check no is Even or odd
6. WAP in PHP to print division of a student according to his marks.
7. WAP in PHP to print user favorite color using switch statement.
8. WAP in PHP to print Sum of Digits of a number.
9. Write a PHP program to demonstrate the use of for each loop.
10. Write a PHP program to print elements of an Array and its size.
11. Write a PHP program to print age of a person using associative array.
12. Write a PHP program to add values of two global variables using function.
13. Write a PHP program to print value entered by user using superGlobal variables like $_post and $_request.

14. Write a PHP program to print systems date and time.
15. Write a PHP program to include another php file in the main file.
16. Write a PHP code to open a file, read its content and then perform close operation on the same.
17. Write a PHP program to upload a file.
18. Write a PHP program to create a cookie named "user" with the value "jass" such that the cookie will expire after 30 days (86400 * 30).
19. Write a PHP program to get the session information from the previous login page.
20. Write a PHP program to print user input filled in the form.
21. Write a code to validate a form using PHP.
22. How to connect to MySql through PHP to create a database.
23. Write a code to insert data into database using PHP.
24. Write a program to update or delete the data in user created table.
25. Create an application using PHP and MySql.

| Program no | Teaching Dates |
|---|---|
| 1-5 | 11$^{th}$ January 10$^{th}$ February |
| 6-15 | 11$^{th}$ February to 5$^{th}$ March |
| 16-24 | 6$^{th}$ March to 15$^{th}$ April |
| 25+Revision | Till 30$^{th}$ April |

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Practical file (Unit wise) 2.Student viva 3. Discussion and doubt sessions 4. Completion of practical assignment questions in the Lab. | | |
| | 40% | After Each Unit |
| | | Every week |
| | 40% | Last Week of April |

| End of Semester Exam | 40% | Last Week of April |
|---|---|---|

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## *References:*

24. Php: The Complete Reference 1st Edition  (English, Paperback, Steven Holzner)

## E- resources

- https://www.w3schools.com/php/

- https://www.tutorialspoint.com/php/

## CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: B Design Multimedia (BDM)

**Programme : Dream Weaver**
**Semester: IV**
**Name of the Teacher: Vinay Shweta**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  Vinayshwetacomputerlkc@gmail.com**

## Objectives of the Course:

This course aims to identify Dreamweaver fundamental., Create websites,Create web pages, Insert tables and import content into web pages, Create reusable site assets, Link web pages and send the website to the server.

## Course Content:

The course provides an introduction about

- In first section Introduction to Dream weaver and sites & Documents.
- Second Section Linking & Navigation, Site Management, Formatting text.
- Third Section Images, Tables, Layers, Frames.
- Fourth section Inserting media, Behavior, Editing HTML, Forms.
  **Detailed Course Contents: Available at  www.gndu.ac.in**

## What will be the teaching methods:

- Lectures : Six days per week of practical practices
- Assignments : Assignments after completion of topic
- Practical practice

## Program Learning Outcomes:
Practical Written file Assignments:
- Create personal or business websites.

- Use critical thinking skills to design and create a basic.

- Create a multi-page web site using the basic features of Dreamweaver.

- Creating Forms using dreamweaver.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (Unit wise) 2.Assignments 3. Discussion | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **After Each Unit** |
| **End of Semester Exam** | **40%** | **Last week of April** |

## Teaching Outline:

| Unit/Section | Teaching Dates |
|---|---|
| **I** | **11$^{th}$ Jan. to 5$^{th}$ Feb.** |
| **II** | **6$^{th}$ Feb. to 29$^{th}$ Feb.** |
| **III** | **1$^{st}$ March to 27$^{th}$ March** |
| **IV** | **28$^{th}$ March to 16$^{th}$ April** |
| **Practical Practice** | **Till Exams** |

## Attendance Policy
Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

<div align="center">

**CURRICULUM PLANNING AND IMPLEMENTATION**

**Course Name: Film Appreciation II**

</div>

**Programme : BDMM**
**Semester: IV**
**Name of the Teacher: Onkar**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  onkar.computer.lkc@gmail.com**

## Objectives of the Course:

This course aims at teaching students about the process of production (pre production, production & post Production work). Discuss about camera, cast/crew, location & equipment. How these whole production process working to startup to till releaseing.

## Course Content:

It's Introduction, its production & distribution. Role of Censor in production. Explain the Art & Technique in Motion Pictures. Explain all the post production works like music, bg, editing & Post Synchronization or dubbing

## Detailed Course Contents: Available at:  www.gndu.ac.in

## What will be the teaching methods:

- Lectures : six per week
- Student Seminars: 1 per week
- Assignments: The students will be asked to study the notes provided & class test will be conducted.
- PowerPoint Presentations

## Program Learning Outcomes:

## Learning Outcomes:

### T. Knowledge and Understanding):

Students will

- Learn about the process of film making.
- Learn about its working on different types of film styles.
- Learn about the different equipment.
- Learn about motion graphics.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| Continuous Internal Evaluation(CIE) | | |
| | 40% | After Each Section |
| 1.Class Tests (section wise) | | Every week |
| 2.Student Seminars | 40% | Last Week of September |
| 3. In House Exams | | |
| End of Semester Exam | 40% | Last week of November onwards |

### Teaching Outline:

| Section | Teaching Dates |
|---|---|
| I | 16 January to 18 February |
| II | 19 February to 3 March |
| III | 6 March to 28 March |
| IV | 30 March to 20 April |
| Revision | Till Exams |

### Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## CURRICULUM PLANNING AND IMPLEMENTATION

### Course Name: B Design Multimedia (BDMM)

**Programme: Project-II**
**Semester: IV**
**Name of the Teacher: Shilpa Sharma**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  shilpacomputerlkc@gmail.com**

### Objectives of the Course:

This course aims at learning of 3D tools (Blender, Photoshop) is that students come to know how to work on it and for what purpose it is used. This class will introduce students to fundamental topics in three-dimensional design. Students explore the principles of visual perception and the meaning of form, space, function, and structure as they relate to three-dimensional design through a clear sequence of assignments and projects. Course work focuses on the preparation and presentation of discrete design projects that emphasizes understanding of formative processes that will lead the designer toward solutions. The class is structured with visual presentation/lecture, class assignments/projects and critiques.

## Course Content:

The course provides an introduction about

**One Unit:** Blender Interface in which Blender screen, 3D window, 3D space**,** Navigate save, App Pac Imp

**Two Unit:** Work on Object such as create and edit object with Basic Mesh, Join mesh, how to Move mesh object, Mesh vertex edit

**Three Unit:** Working on various types of Materials and textures **,** also work Material settings, Ramp shaders**,** Halos, UV Texture mapping, Displacement mapping, Unwrapping with seams

**Four Unit:** Lighting and its types of lights, Light settings and camera and Camera settings

**Five Unit:** Rendering and its settings, Creating a video clip, Raytracing

**Six Unit**: Animation: Basics of Animation , Keyframes used in animation, Graph Editor and Editing curves

**Seven Unit:** Creating 3D text, Text on curves, Converting to mesh object

**Eight Unit:** Work on Modifiers**,** Modifier stack, Array modifier, Bevel modifier**,** Boolean modifier, Mirror modifier, Subdivision surface modifier**,** UV project modifier,Rendring.

## Detailed Course Contents: Available at  www.gndu.ac.in

## What will be the teaching methods:

- Lectures : Six days per week of theory
- Discussion after completion of topic

## Program Learning Outcomes:

Knowledge & Understanding

- Know about Blender software
- Know about working in software
- Work on Mesh with different primitives
- Experiments on lighting, camera, rendering and its settings
- Work on Animation with keyframes and graph editor
- Work on 3D text, different kinds of modifiers, particle systems, constraints, armatures and work on nodes.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)**<br><br>1.Class Tests (Unit wise)<br><br>2. Assignments | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **After Each Unit** |
| **End of Semester Exam** | **40%** | **Last week of April** |

**Teaching Outline:**

| Unit/Section | Teaching Dates |
|---|---|
| I | 12$^{th}$ Jan. to 18$^{th}$ Jan. |
| II | 19$^{th}$ Jan. to 28$^{th}$ Jan. |
| III | 29$^{th}$ Jan. to 15$^{th}$ Feb. |
| IV | 16$^{th}$ Feb. to 20$^{th}$ Feb. |
| V | 21$^{st}$ Feb. to 04$^{th}$ March. |
| VI | 05$^{th}$ March. to 15$^{th}$ March. |
| VII | 16$^{th}$ March. to 22$^{th}$ March. |
| VIII | 23$^{rd}$ March. to 12$^{th}$ April. |
| Revision | Till exam |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

**CURRICULUM PLANNING AND IMPLEMENTATION**

**Course Name: 3D Studio Max**

**Programme: B.D.M.M**
**Semester: VI**
**Name of the Teacher: Harpreet Singh**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  harpreet.computerlkc@gmail.com**

**Objectives of the Course:**

This purpose of this course is to teach the students about a very easy to learn 3D software called 3D studio Max. Max is the software which is used to create 3D objects which can be used further in compositing VFX. This software is very easy to learn and understand. Students who shows interest in 3D field, they can easily learn this and learning this software can help them to improve their overall 3D skills. User can easily create any 3d object and can improve it using texturing.

**Course Content:**

This course covers a variety of different topics, those are as follows:

- Intro to 3D Max
- Meeting max interface
- Using primitives Splines
- Cloning objects and objects arrays
- Grouping and linking objects
- Modeling with modifiers
- Mesh level modeling
- Working with Nurbs
- Basic Mapping and material
- Working with lights
- Using camera
- Animation
- Working with bones
- Use of inverse kinematics

At the end of semester students needs to submit 2 Assignments, in which one will be of Modeling and another of Animation clips which are made in 3D Max.

**Detailed Course Contents: Available at:** www.gndu.ac.in

**What will be the teaching methods:**

- Lectures : six per week
- Assignments: Students will be given different assignments

**Program Learning Outcomes:**

**U. Knowledge and Understanding):**

Students will

- start learning basic 3d modeling

- learn to use different modeling styles
- understand how mapping works in 3D max
- learn how to work with different types of lights
- get to know about how useful animation is in 3D Max
- after learning this course, they will get familiar with 3D field
- understand how to build bones and joints
- use Inverse Kinematics

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (section wise) 2.Student Seminars 3. In House Exams | | |
| | 40% | After Each Section |
| | | Every week |
| | 40% | Last Week of September |
| End of Semester Exam | 40% | Last week of November onwards |

**Teaching Outline:**

| Section | Teaching Dates |
|---|---|
| I | 15 January to 30 January |
| II | 1 February to 24 February |
| III | 25 to 11 March |
| IV | 13 March to 3 April |
| Revision | Till Exams |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

**CURRICULUM PLANNING AND IMPLEMENTATION**

**Course Name: B Design Multimedia (BDM)**

**Programme : Workshop-IV Stop Motion**
**Semester: VI**
**Name of the Teacher: Vinay Shweta**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  Vinayshwetacomputerlkc@gmail.com**

## Objectives of the Course:

This course aims to develop reading and writing skills. To develop creativity. To develop drawing skill. To grasp the concept of storyboard creation.Stop Motion Animation is an intermediate course for Cuo-Out, Clay and Puppet Animation.

## Course Content:

The course provides an introduction about

- In first section – Camera Capturing Techniques.
- Second Section –Camera angle, Frame by frame shoot.
- Third Section- Editing and types of editing.
- **F**ourth section- Sequence edit and composite in Video and Compositing softwares,Render.
  **Detailed Course Contents: Available at**  www.gndu.ac.in

## What will be the teaching methods:

- Lectures : Six days per week of practical practices
- Assignments : Assignments after completion of topic
- Practical practice

## Program Learning Outcomes:

Practical Written file Assignments:.

- Creating Cutout Animation.

- Creating Stop Motion.

- Creating Clay Animation.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| Continuous Internal Evaluation(CIE)<br><br>1.Class Tests (Unit wise)<br><br>2.Assignments<br><br>3. Discussion | | |
| | 40% | After Each Unit |
| | | Every week |
| | 40% | After Each Unit |
| End of Semester Exam | 40% | Last week of April |

**Teaching Outline:**

| Unit/Section | Teaching Dates |
|---|---|
| I | 11$^{th}$ Jan. to 25$^{th}$ Jan. |
| II | 26$^{th}$ Jan. to 18$^{th}$ Feb. |
| III | 19$^{th}$ Feb. to 16$^{th}$ March |
| IV | 17$^{th}$ March to 12$^{th}$ April |
| Practical Practice | Till Exams |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## CURRICULUM PLANNING AND IMPLEMENTATION

### Course Name: B Design Multimedia (BDMM)

**Programme: Blender**
**Semester: VI**
**Name of the Teacher: Shilpa Sharma**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail: shilpacomputerlkc@gmail.com**

**Objectives of the Course:**

This course aims at learning of 3D tool (Blender) is that students come to know how to work on it and for what purpose it is used. Blender is a free and open-

source 3D computer graphics software toolset used for creating animated films, visual effects, art, 3D printed models, interactive 3D applications and video games. Blender's features include 3D modeling, UV unwrapping, texturing, raster graphics editing, rigging and skinning, fluid and smoke simulation, particle simulation, soft body simulation, sculpting, animating, match moving, rendering, motion graphics, video editing and compositing.

## Course Content:

The course provides an introduction about

One Unit**:** Blender Interface in which Blender screen, 3D window, 3D space**,** Navigate save, App Pac Imp
Two Unit**:** Work on Object such as create and edit object with Basic Mesh, Join mesh, how to Move mesh object, Mesh vertex edit
Three Unit**:** Working on various types of Materials and textures **,** also work Material settings, Ramp shaders**,** Halos, UV Texture mapping, Displacement mapping, Unwrapping with seams
Four Unit**:** Lighting and its types of lights, Light settings and camera and Camera settings
Five Unit**:** Rendering and its settings, Creating a video clip, Raytracing
Six Unit Animation: Basics of Animation , Keyframes used in animation, Graph Editor and Editing curves
Seven Unit**:** Creating 3D text, Text on curves, Converting to mesh object
Eight Unit**:** Work on Modifiers**,** Modifier stack, Array modifier, Bevel modifier**,** Boolean modifier, Mirror modifier, Subdivision surface modifier**,** UV project modifier

## Detailed Course Contents: Available at  www.gndu.ac.in

## What will be the teaching methods:

- Lectures : Three days per week of practical
- Discussion after completion of topic

## Program Learning Outcomes:

- Create a dice, chair, table and sofa with proper detail
- Create a scene of Lab(Interior)
- Create an exterior scene of any building
- Use Camera and lights in Interior (lab)
- Create a character based on cartoon or semi-cartoon along with rigging using constraints and armature
- Create a animation of different types of ball using keyframes and graph-editor

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|

| Continuous Internal Evaluation(CIE) | | |
|---|---|---|
| 1.Class Tests (Unit wise) | 40% | After Each Unit |
| | | Every week |
| 2. Assignments | 40% | After Each Unit |
| End of Semester Exam | 40% | Last week of April |

## Teaching Outline:

| Unit/Section | Teaching Dates |
|---|---|
| I | 11$^{th}$ Jan. to 19$^{th}$ Jan. |
| II | 20$^{th}$ Jan. to 29$^{th}$ Jan. |
| III | 30$^{th}$ Jan. to 16$^{th}$ Feb. |
| IV | 17$^{th}$ Feb. to 21$^{st}$ Feb. |
| V | 22$^{nd}$ Feb. to 05$^{th}$ March. |
| VI | 06$^{th}$ March. to 16$^{th}$ March. |
| VII | 17$^{th}$ March. to 23$^{rd}$ March. |
| VIII | 24$^{th}$ March. to 12$^{th}$ April. |
| Revision | Till exam |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## CURRICULUM PLANNING AND IMPLEMENTATION

### Course Name: B Design Multimedia (BDMM)

**Programme: 3D & Animation in Photoshop**
**Semester: VIII**
**Name of the Teacher: Shilpa Sharma**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail: shilpacomputerlkc@gmail.com**

## Objectives of the Course:

To create future 3D animators with in-depth understanding for 3D animation, 3D Modelling & Texturing, Rigging, lighting. To provide industry specific 3D animation technical skills using Autodesk Maya. Animation & Film Making from pre-production & production

program focusing on all creative aspects, 3D character development, BG modeling and surfacing, lighting & rendering, character animation, rigging & character set-up.

## Course Content:

The course provides an introduction about

**One Unit:** Working with 3D Files, Importing 3D objects
**Two Unit:** 3D tools, 3D Object Control, 3D-Axis tool
**Three Unit:** Shapes, Meshes from 2D gray-scale layer, Texture
**Four Unit:** animation in Photoshop, 3D Render settings, Frame Animation
**Fifth Unit:** working with third party tools: DAZ studio 3D

## Detailed Course Contents: Available at  www.gndu.ac.in

## What will be the teaching methods:

- Lectures : Three days per week of theory
- Discussion after completion of topic

## Program Learning Outcomes:

Knowledge & Understanding

- Knowledge about Printing and Print Media.
- Knowledge about working in Printing Plates like Magazine, Display Ads.
- Knowledge about Script Writing about Films, Documentaries.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (Unit wise) 2. Assignments | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **After Each Unit** |
| **End of Semester Exam** | **40%** | **Last week of April** |

## Teaching Outline:

| Unit/Section | Teaching Dates |
|---|---|
| I | **11<sup>th</sup> Jan. to 25<sup>th</sup> Jan.** |
| II | **26<sup>th</sup> Jan. to 17<sup>th</sup> Feb.** |

| | |
|---|---|
| III | **18<sup>th</sup> Feb. to 17<sup>th</sup> March.** |
| IV | **18<sup>th</sup> March. to 25<sup>th</sup> March.** |
| V | **26<sup>th</sup> March. to 10<sup>th</sup> April.** |
| Revision | **Till exam** |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## CURRICULUM PLANNING AND IMPLEMENTATION

### Course Name: B Design Multimedia (BDMM)

**Programme: 3D & Animation in Photoshop**
**Semester: VIII**
**Name of the Teacher: Shilpa Sharma**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail: shilpacomputerlkc@gmail.com**

**Objectives of the Course:**

To create future 3D animators with in-depth understanding for 3D animation, 3D Modelling & Texturing, Rigging, lighting. To provide industry specific 3D animation technical skills using Autodesk Maya. Animation & Film Making from pre-production & production program focusing on all creative aspects, 3D character development, BG modeling and surfacing, lighting & rendering, character animation, rigging & character set-up.

**Course Content:**

The course provides an introduction about

**One Unit:** Working with 3D Files, Importing 3D objects
**Two Unit:** 3D tools, 3D Object Control, 3D-Axis tool
**Three Unit:** Shapes, Meshes from 2D gray-scale layer, Texture
**Four Unit:** animation in Photoshop, 3D Render settings, Frame Animation
**Fifth Unit:** working with third party tools: DAZ studio 3D

**Detailed Course Contents: Available at** www.gndu.ac.in

**What will be the teaching methods:**

- Lectures : Three days per week of theory
- Discussion after completion of topic

**Program Learning Outcomes:**

Knowledge & Understanding

- Knowledge about Printing and Print Media.
- Knowledge about working in Printing Plates like Magazine, Display Ads.
- Knowledge about Script Writing about Films, Documentaries.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| Continuous Internal Evaluation(CIE) 1.Class Tests (Unit wise) 2. Assignments | | |
| | 40% | After Each Unit |
| | | Every week |
| | 40% | After Each Unit |
| End of Semester Exam | 40% | Last week of April |

## Teaching Outline:

| Unit/Section | Teaching Dates |
|---|---|
| I | 11$^{th}$ Jan. to 25$^{th}$ Jan. |
| II | 26$^{th}$ Jan. to 17$^{th}$ Feb. |
| III | 18$^{th}$ Feb. to 17$^{th}$ March. |
| IV | 18$^{th}$ March. to 25$^{th}$ March. |
| V | 26$^{th}$ March. to 10$^{th}$ April. |
| Revision | Till exam |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## CURRICULUM PLANNING AND IMPLEMENTATION

### Course Name: Motion Graphics for Commercial

**Programme: B.D.M.M**
**Semester: VIII**
**Name of the Teacher: Harpreet Singh**
**Availability Timings: 9.00 AM to 3.00 PM**

**E-mail: harpreet.computerlkc@gmail.com**

**Objectives of the Course:**
In this course students will get knowledge about use of Motion Graphics.Motion graphics are animations and footage used to create the illusion of motion in any video. Creative use them to incorporate stunning transitions, moving backgrounds, and smooth animations of all sorts into their video projects. Motion graphics make your videos more exciting. It's because they're a unique way to communicate. They blend the best of visual communication with motion storytelling and audio to create an engaging piece of content that helps brands share their story, reach people in different ways, and present their message in a compelling package.

**Course Content:**
This course has been created to teach the students all the necessary & useful things which are very important in the field of motion graphics. For e.g.:
- Motion graphics in Music Videos, Film and Television, branding
- Motion Graphics on Web, Animation Navigation, Splash page animation, Digital signage, Motion in DVD-Video etc.
- Different kind of animation process, like Frame by frame animation, visual and temporal interpolation, spatial.
- Different kind of compositions: Blending options, keying, alpha channels, matters, masks, nesting and Color correction.

This course has been created in a very unique way, because it will provide the students knowledge about both Practical and Theory ways.

**Detailed Course Contents: Available at:** www.gndu.ac.in

**What will be the teaching methods:**
- Lectures : six per week (3 practical, 3 Theory)
- Practical Lab using Adobe After effects.
- Assignments: The students will be asked to study the notes provided.
- Written Test
- Practical Assignments.
- Templates will be provided for their help

## Program Learning Outcomes:

## Learning Outcomes:

### V. Knowledge and Understanding):
Students will
- Understand what are motion graphics and how they works
- Be taught in brief about motion graphics
- The use of motion graphics in different fields
- Get to know, how to use motion graphics on web
- Start creation high end motion graphics by their own
- Students can easily find a job in their favorite field if they understand motion graphics properly

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| Continuous Internal Evaluation(CIE)<br><br>1.Class Tests (section wise)<br><br>2.Student Seminars<br><br>3. In House Exams | | |
| | 40% | After Each Section |
| | | Every week |
| | 40% | Last Week of September |
| End of Semester Exam | 40% | Last week of November onwards |

## Teaching Outline:

| Section | Teaching Dates |
|---|---|
| I | 16 January to 28 January |
| II | 1 February to 22 February |
| III | 25 February to 7 March |
| IV | 11 March to 27 March |
| V | 28 March to 11 April |
| Revision | Till Exams |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## *References:*

- *Design for Motion: Fundamentals and Techniques of Motion Design*

- *Motion Graphic Design: Applied History and Aesthetics*

- *The Animator's Survival Kit*

## *E-Resources:*

- https://www.researchgate.net/publication/284437924_Motion_Graphics_and_Animation

- https://webdesign.tutsplus.com/articles/how-to-enhance-your-website-with-motion-graphics--cms-31571

- https://acodez.in/motion-graphics-website-design/

- https://www.academia.edu/26259245/Motion_Graphics_and_Animation

## CURRICULUM PLANNING AND IMPLEMENTATION

### Course Name: Bachelor of Design Multimedia (BMM)

**Programme : 3D Human Modeling & Animation**
**Semester: VIII**
**Name of the Teacher: Retinder Kaur**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  retindercomputerlkc@gmail.com**

## Objectives of the Course:

This course aims at learning of 3D tool (Maya) in practical way. In this tool, work on Human modeling and study of human body anatomy with proper proportion. In 3D modeling use Splines, NURBS, Polygons along with working on lighting , storyboarding, rotoscoping  and Animation following elements of animation.

## Course Content:

The course provides an introduction about

- Learning of Anatomy of Human Figure.
- Human Face Modelling using Patch Modelling, Splines and NURBS Modelling.
- Knowledge about Lighting and its types: Key light, Ambient Light, Fill, Rim or Back Light, Kicker, Top Light, Bounce Light, Contact Light, Gobos Light.
- Learning of Walking and Running of character with using elements of Pacing and Impact, Action Reaction, Rhythm and Lines of Action, Paths of Action, Cycles, Postures, Emotions, Balance/Imbalance.

**Detailed Course Contents: Available at** www.gndu.ac.in

**What will be the teaching methods:**

- Lectures : Six per week
- Assignments : Weekly Assignments
- Practical practice

**Program Learning Outcomes:**

Practical Assignments:

- Assignment on 3D Human face model.
- Assignment on 3D Human body with details.
- Create interior/exterior scene of building and apply lights on in it based on morning, afternoon or evening time.
- Create animation based on running/walking with following the elements of animation.

**Written file Assignment:**

- Write a down about Autodesk Maya and its extension.
- Explain: Proportion, Skelton and 3D modeling.
- Explain: Patch modelling, NURBS and Splines.
- What do mean by lighting? Write a note on Ambient Light, Fill Light, Key light, Back light, Top light, Bounce light and Gobos light.
- Write down about Storyboarding and Rotoscoping.
- Define elements: Pacing, Rhythm, Postures, Balance and Path of Action, Cycles.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal** | | |

| Evaluation(CIE) | 40% | After Each Unit |
|---|---|---|
| 1.Class Tests (Unit wise) | | Every week |
| 2.Assignments | 40% | After Each Unit |
| 3. Discussion | | |
| End of Semester Exam | 40% | Last week of April |

**Teaching Outline:**

| Unit | Teaching Dates |
|---|---|
| I | 16$^{th}$ Jan. to 23$^{th}$ Jan. |
| II | 24$^{th}$ Jan. to 5$^{th}$ Feb. |
| III | 6$^{th}$ Feb. to 20$^{th}$ Feb. |
| IV | 21$^{st}$ Feb. to 14$^{th}$ March. |
| V | 16$^{th}$ March to 7$^{th}$ April |
| Practical Practice | Till Exams |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

**Text Book(s):**

Richard William, *The Animator's Survival Kit (e- book)*

*References:*

25.Richard William, *The Animator's Survival Kit (e- book)*

**E- resources**

- https:// www.floobynooby.com/pdfs/The_Animators_Survival_Kit.pdf

<div align="center">**Course Name: PRESS LAWS AND MEDIA ETHICS**</div>

**Programme : BAJMC**
**Semester: II**
**Name of the Teacher: Himanshu**
**Availability Timings: 9.00 am to 3.00 pm**
**E-mail:** **Himanshucomputerlkc@gmail.com**

**Objectives of the Course:**

To help the students to understand media laws and press code of conduct and to trace the history of mass media. By this course student will gain knowledge about Press Council Act, Official Secret Act, Right to Information, Copyrights, Intellectual Property Right and about the Press Commission of India. Knowledge of these laws will help the students in professional work.

**Course Content:**

Basic media laws and press code of conduct. The students will learn about the extent of freedom of press and Press Commissions & their recommendations. Various acts like, Press & Registration of Books Act, Working Journalist Act, Law of Defamation, Contempt of Court, Parliamentary Privileges, Press Council Act, Official Secret Act. The Right to Information, Copyrights, Intellectual Property Right and Social Responsibility of Press are also included in the content.

**Detailed Course Contents: Available at -** www.gndu.ac.in

**What will be the teaching methods:**
- Lectures : six per week
- Student Seminars: two per week
- Assignments  : The students will be asked to read the press laws and area of application of law.
- Power point Presentations
- Participatory and Experiential Learning
- Quiz

## Program Learning Outcomes:
( Knowledge and Understanding, Analytical Skills, Practical Skills, Transferable skills).

## Learning Outcomes:

### A. Knowledge and Understanding):
- Basic knowledge of Press and Media Laws
- Improving knowledge of laws which are related to their working field
- Understanding various ethics of Press for the profession

### B. Intellectual( Cognitive/ Analytical) Skills:

- Understanding of various laws
- Knowledge about application of laws of press
- Understanding ethical issues related to press
- Awareness of laws for the work in future
- Knowledge about history of press laws

### C. Practical Skills
Students will learn to:
- Practical application of press laws
- Knowledge of Ethical Aspects

### D. Transferable Skills :
Students will be able to
- Awareness about Law of Defamation, Contempt of Court, Official Secret Act, Right to Information and Copyright Act
- 
- Learning Social responsibility of press

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| Continuous Internal Evaluation(CIE)<br><br>1.Class Tests (Unit wise)<br><br>2.Student Seminars<br><br>3. In House Exams | | |
| | 40% | After Each Unit |
| | | Every week |
| | 40% | Last Week of September |
| End of Semester Exam | 40% | Last week of November onwards |

**Teaching Outline:**

| Unit | Teaching Dates |
|---|---|
| I | 15 January to 30 January |
| II | 1 February to 24 February |
| III | 25 February to 11 March |
| IV | 13 March to 3 April |
| Revision | Till Exam |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

*References:*

1. Mass Media Laws & Regulations : C.S. Rayudu, S B Nageshwar Rao

2. Press in the Indian Constitution : R.K. Ravindran

3. Principles & Ethics of Journalism : Dr. Jan R. Hakemuldar, Dr. Fay AC

de Jouge, P.P.Singh

4. Media & Ethics by S. K Aggarwal Shipra Publication

**E- resources**

- https://indiacode.nic.in/bitstream/123456789/2379/1/A1923-19.pdf

- http://www.legalservicesindia.com/article/1910/Defamation.html

- https://doj.gov.in/sites/default/files/contempt.pdf

- https://www.latestlaws.com/bare-acts/central-acts-rules/media-laws/vernacular-press-act1878/

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: History of Print Media

**Programme : B.A (Journalism and Mass Communication)**
**Semester : II**
**Name of the Teacher : Ms Avneet Kaur**
**Availability Timings : 9.00 AM to 3.30 PM**
**E-mail : Avneetcomputerlkc@gmail.com**

## Objectives of the Course:

To develop knowledge of History of Indian Journalism. It finds traces of the Indian journalism and how it began. It aims at informing the students about the traditional printing press to modern printing techniques. It enhance the vision of students by demonstrating the advantages and disadvantages of traditional print media.

## Course Content:

This course explains the role, functions, importance and essentials of print media. It also throws light on various eminent personalities of Indian Journalism who are responsible for bringing Journalism in India. It educates the students about various acts related to print media and its code of ethics. It also gives detailed information about the news agencies like PTI, UNI etc.

## Detailed Course Contents: Available at  www.gndu.ac.in

## What will be the teaching methods:

- Lectures : Six per week
- Student Seminars: Two per week
- Assignments : The students will be asked to read the textbooks in advance and write articles on given topics.
- Group discussions
- Participatory and Experiential Learning
- Quiz and Debates

## Program Learning Outcomes:

## (Knowledge and Understanding, Intellectual Skills, Practical Skills, Transferable skills).

### Learning Outcomes:

#### W. Knowledge and Understanding):
Students will:
- have knowledge about working and functioning of traditional print media.
- have clear vision and perspective of local, National and International print media.
- will learn various methods and techniques of printing technologies.

#### B. Intellectual (Cognitive/ Analytical) Skills:
Students will be able to
- inculcate in them the sense of responsibility of understanding print media.
- analyze and learn about the importance of traditional printing technique in modern era.
- have a detailed knowledge about various eminent personalities of Indian Journalism.
- think critically about the role of Traditional printing press in contemporary world.

#### C. Practical Skills
Students will learn about:
- functioning of printing machines.
- Assign their crucial time to research about new technological advancements and innovations in the field of print media.
- Follow the code of ethics mandatory for working of print media houses.

#### D. Transferable Skills :
Students will be able to

- disseminate information and knowledge about the functioning of Print Media.

- actively participate in various seminars, group discussions etc.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| Continuous Internal | | |

| Evaluation(CIE) | 40% | After Each Unit |
|---|---|---|
| 1.Class Tests (Unit wise) | | Every week |
| 2.Student Seminars | 40% | Last Week of March |
| 3. In House Exams | | |
| End of Semester Exam | 40% | Last week of April onwards |

**Teaching Outline:**

| Unit | Teaching Dates |
|---|---|
| I | 11 January to 08 February |
| II | 11February to 04 March |
| III | 05 March to 20 March |
| IV | 23 March to 01 April |
| Revision | Till 15 April |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

**Text Books:**

- **Mass Communication in India by Kewal J kumar**

- Mass Media Laws and Regulations by C.S Rayudu

- Journalism in India by Ranga Swamy Parthasarthy

- Mass Communication by Vir Bala Aggarwal

**E- resources**

- https://www.digitalconnectmag.com/a-brief-but-bold-history-of-print-media/

- https://www.prepressure.com/printing/history

- http://www.shareyouressays.com/knowledge/history-of-journalism-and-the-evolution-of-print-mediaessay/103996

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: Mass Communication: Concepts and Processes

**Programme: B.A Journalism & Mass Communication**
**Semester: II**
**Name of the Teacher: Prof. Muskan Sidana**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail: muskansidana.computerlkc@gmail.com**

## Objectives of the Course:

This course aims at acquainting students with various objectives:

- To give learners an exposure to the diverse areas of mass communication
- To endow learners with the knowledge, communication skills and perspectives necessary for future careers in the information/ communication/entertainment industry
- To develop their aesthetic skills by providing basic guidelines;
- To inculcate elements of creativity.

## Course Content:

The course provides an introduction to four modules that provide an insight into the different forms of mass media. These modules are Introduction to Mass Communication; Print media; Radio; Television; Advertising and Public Relations; and New media.

This module is designed to familiarize the students with the concept of mass communication, different forms of mass media, the role and impact of media, functions of government media agencies/ departments and the importance of development communication.

## Detailed Course Contents: Available at  www.gndu.ac.in

## What will be the teaching methods:

- Lectures : six per week
- Student Seminars: One in a week
- Group Discussion
- Assignments : The students will be asked to read the textbook in advance and write articles on given topics
- Powerpoint Presentations
- Participatory and Experiential Learning
- Quiz

**Program Learning Outcomes:**

**(Knowledge and Understanding, Intellectual Skills, practical Skills, Transferable skills).**
**Learning Outcomes:**

**A. Knowledge and Understanding):**
Students will
- be able to introduce themselves to the theories of Mass Communication.
- be able to inculcate the knowledge of Mass Communication models.
- be able to develop the knowledge of basic elements & processes of mass communication.
- be able to acquaint themselves with the various types of mass communication.

**B. Intellectual( Cognitive/ Analytical) Skills:**
Students will be able to
- identify various types of audiences.
- think critically about the different theories

**C. Practical Skills**
Students will learn to:
- Differentiate between content
- About various types or mediums of mass communication
- Use various technical elements about how mass communication works.

**D. Transferable Skills :**
Students will be able to
- use media more effectively
- learn to think more creatively as well as comparatively
- display better ways to communicate with masses.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)**<br><br>1.Class Tests (Unit wise)<br><br>2.Student Seminars | **40%** | **After Each Unit** |
| | | **Every week** |

| | | |
|---|---|---|
| 3. In House Exams | **40%** | **Last Week of February** |
| **End of Semester Exam** | **40%** | **Last week April onwards** |

## Teaching Outline:

| Unit | Teaching Dates |
|---|---|
| **I** | **11 January to 31 January** |
| **II** | **3 February to 20 February** |
| **III** | **24 February to 13 March** |
| **IV** | **16 March to 15 April** |
| **Revision** | **Till 24 April** |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## Text Book(s):

Mass Communication in India–Kewal J. Kumar

Mass Communication Journalism in India- D S Mehta

## *References:*

1. Mass Communication & Development Dr. Baldev Raj Gupta
2. Communication Technology & Development I.P.Tiwari
3. Mass Communication in India Keval J Kumar
5. Cinema & Television Jacques Hermabon & Kumar Shahani
6. Mass Communication Journalism in India D S Mehta
7. Mass Media Today Subir Ghosh
8. The Communication Revolution Narayana Menon

### E- resources

- http://www.nraismc.com/wp-content/uploads/2017/03/201 MASS_COMMUNICATION_CONCEPT___PROCESS__1_.pdf

- http://www.rapodar.ac.in/pdf/elearn/Mass%20com%20Sem%20III%20%20notes.pdf

- http://theonlinemedia.blogspot.com/2012/06/functions-of-mass-media.html

- https://smallbusiness.chron.com/four-functions-mass-communications-56326.html

- https://www.communicationtheory.org/soviet-media-theory/

- https://www.businesstopia.net/mass-communication/communist-theory-mass-communication

<div align="center">

**CURRICULUM PLANNING AND IMPLEMENTATION**

**Course Name: Drug Abuse: Problem, Management and Prevention**

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**Programme: BCA, B.Sc. IT, B.Voc. SD, B.Voc. PT, BAJMC, BDMM**
**Semester: II**
**Name of the Teacher: ShefaliTaneja**
**Availability Timings: 9.00 AM to 3.30 PM**
**E-mail:  shefalilkc@gmail.com**

**Objectives of the Course:**
This course aims at acquainting students with management and prevention of drug abuse. It aims to teach students various preventive strategies and controlling techniques of drug abuse.

**Course Content:**
The course provides an introduction to various preventive and controlling techniques of drug abuse. It focuses on the role of family, school, media and legislation in prevention of drug abuse. The course examines these strategies and aims to teach students on how to practically use these techniques that help in dealing with drug addiction/abuse.

**Detailed Course Contents: Available at** www.gndu.ac.in

**What will be the teaching methods:**
- Lectures : three per week
- Student Seminars: one per week
- Two assignments will be given in a month based on the topics covered
- Power-point Presentations
- Participatory and Experiential Learning

**Program Learning Outcomes:**

33. Students will understand about various preventive strategies of drug abuse.
34. They will have deeper knowledge of how to control drug abuse.
35. Students will be able to identify which technique is best suitable for each and every person who abuse drugs.
36. They will understand about how family plays an important role in prevention of drug abuse.

37. Students will have knowledge about counseling and how it can be provided in schools to prevent drug abuse.
38. Apart from these preventive measures, students will gain knowledge about how media can play an important role in controlling drug abuse.
39. The course will help in spreading awareness about how legislation can play a vital role in controlling drug abuse.
40. Students will be able to implement these strategies in real life and help those who abuse drugs.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (Unit wise) 2.Student Seminars 3. In House Exams | | |
| | 40% | After Each Unit |
| | | Every week |
| | 40% | Last Week of September |
| **End of Semester Exam** | 40% | Last week of November onwards |

**Teaching Outline:**

| Unit | Teaching Dates |
|---|---|
| I | 11 January to 05 February |
| II | 06 February to 29 February |
| III | 02 March to 25 March |
| IV | 26 March to 18 April |
| Revision | Till 30 April |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

**Text Book(s):**

Kishore, K. (2018). Drug Abuse: Problem, Management and Prevention. New Delhi: Modern Publishers.

## *References:*

1. Ahuja, Ram (2003), Social Problems in India, Rawat Publication, Jaipur.

2. Extent, Pattern and Trend of Drug Use in India, Ministry of Social Justice and Empowerment, Government of India, 2004.

3. Inciardi, J.A. 1981. The Drug Crime Connection. Beverly Hills: Sage Publications.

4. Kapoor. T. (1985) Drug epidemic among Indian Youth, New Delhi: Mittal Pub.

5. Kessel, Neil and Henry Walton. 1982, Alcohalism.Harmond Worth: Penguin Books.

6. Modi, Ishwar and Modi, Shalini (1997) Drugs: Addiction and Prevention, Jaipur: Rawat Publication.

7. National Household Survey of Alcohol and Drug abuse. (2003) New Delhi, Clinical Epidemiological Unit, All India Institute of Medical Sciences, 2004.

8. Ross Coomber and Others. 2013, Key Concept in Drugs and Society. New Delhi: Sage Publications.

9. Sain, Bhim 1991, Drug Addiction Alcoholism, Smoking obscenity New Delhi: Mittal Publications.

10. Sandhu, Ranvinder Singh, 2009, Drug Addiction in Punjab: A Sociological Study. Amritsar: Guru Nanak Dev University.

11. Singh, Chandra Paul 2000. Alcohol and Dependence among Industrial Workers: Delhi: Shipra.

12. Sussman, S and Ames, S.L. (2008). Drug Abuse: Concepts, Prevention and Cessation, Cambridge University Press.

## E- resources

- Verma, P.S. 2017, "Punjab's Drug Problem: Contours and Characterstics", Economic and Political Weekly, Vol. LII, No. 3, P.P. 40-43.

- World Drug Report 2016, United Nations office of Drug and Crime.

- World Drug Report 2017, United Nations office of Drug and Crime.

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: Media and Business Communication

**Programme : B.A (Journalism and Mass Communication)**
**Semester : IV**
**Name of the Teacher : Ms Avneet Kaur**
**Availability Timings : 9.00 AM to 3.30 PM**
**E-mail :  Avneetcomputerlkc@gmail.com**

## Objectives of the Course:

To develop tools and guidelines to assist students in the assessment of current effects in the different Business Organizations. It enhances the ability of students to exchange ideas, opinions, thoughts, beliefs and information between various Business organizations.  It prepares students for tomorrow. It promotes growth in desirable skills and enhances the mental horizon of students. It inculcates in them the recent trends of the Business world.

## Course Content:

This course explains the role, functions, importance and essentials of communications in Business Organizations. It also throws light on various communication models. It classifies Communication into various types. It enhance the quality of writing various types of letters and reports. It addresses the importance of dressing, manners and etiquettes in Business Communication. It directs the students the importance of communication in negotiation and conflict management and also educates about the cross cultural communication.

## Detailed Course Contents: Available at  www.gndu.ac.in

## What will be the teaching methods:

- Lectures : Six per week
- Student Seminars: Two per week
- Assignments : The students will be asked to read the textbooks in advance and write articles on given topics.
- Group discussions
- Participatory and Experiential Learning
- Quiz and Debates

## Program Learning Outcomes:

**(Knowledge and Understanding, Intellectual Skills, Practical Skills, Transferable skills).**

**Learning Outcomes:**

### X. Knowledge and Understanding):
Students will:
- have knowledge about working and functioning of Business Organizations.
- have clear vision and perspective of local, National and International Business affairs.
- will learn various tactics to handle conflict and crisis management.

### B. Intellectual (Cognitive/ Analytical) Skills:
Students will be able to
- inculcate in them the sense of responsibility of handling Business.
- analyze and learn about the importance of communication in business organizations.
- have a detailed knowledge about various important functioning aspects of Business Organizations.
- think critically about the role of Business Communication in contemporary world.

### C. Practical Skills
Students will learn to:
- Develop a habit of researching about new trends of Business Organizations.
- Assign their crucial time to study about the latest innovations in business communication which in turn will help the students to successfully run businesses in coming future.
- Follow the code of ethics mandatory for any type of business organization.
- Become good and responsible citizens of the nation.

### D. Transferable Skills :
Students will be able to
- disseminate information and knowledge about the communication techniques in Business to their peers and people around them.
- actively participate in various seminars, group discussions etc.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)**<br><br>1.Class Tests (Unit wise)<br><br>2.Student Seminars<br><br>3. In House Exams | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **Last Week of March** |
| **End of Semester Exam** | **40%** | **Last week of April onwards** |

## Teaching Outline:

| Unit | Teaching Dates |
|---|---|
| **I** | **11 January to 09 February** |
| **II** | **10 February to 04 March** |
| **III** | **05 March to 20 March** |
| **IV** | **23 March to 01 April** |
| **Revision** | **Till 15 April** |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## Text Books:

- Business communication by R.C Bhatia

- Business communication by M.K Sehgal

- Effective Business communication by Herta Murphy

## E- resources

- https://study.com/academy/lesson/the-role-of-social-media-in-business-communication.html

- https://thebusinesscommunication.com/role-of-mass-communication-in-business/

- https://www.eztalks.com/unified-communications/importance-of-business-communication.html

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: <u>Programme Formats: Radio & TV</u>

**Programme: B.A Journalism & Mass Communication**
**Semester: IV**
**Name of the Teacher: Prof. Muskan Sidana**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail: <u>muskansidana.computerlkc@gmail.com</u>**

## <u>Objectives of the Course:</u>
This course aims at acquainting students with
- Understanding of radio journalism while practicing in the studios
- how to handle and use various radio instrument and the mixers.
- Engaging students in new trends in radio journalism
- introducing them to the presentation, interviewing skills for new online radio.
- Understanding of Television journalism while practicing in the studios how to handle and use various television gadgets.

## <u>Course Content:</u>
The course provides an introduction to
- understand the working pattern of electronic media platform.
- familiarize the students with the basic techniques of broadcasting.
- create understanding of electronic media content creation.
- inculcate the knowledge of script writing.
- develop the knowledge of online journalism.

## <u>Detailed Course Contents: Available at</u> www.gndu.ac.in

## <u>What will be the teaching methods:</u>
- Lectures : six per week
- Student Seminars: One in a week
- Group Discussion
- Assignments : The students will be asked to read the textbook in advance and write articles on given topics
- Powerpoint Presentations
- Participatory and Experiential Learning
- Quiz

**Program Learning Outcomes:**

**(Knowledge and Understanding, Intellectual Skills, practical Skills, Transferable skills).**
**Learning Outcomes:**

**B. Knowledge and Understanding):**
Students will
- be able to understand the working pattern of electronic media platform.
- Be able to familiarize the students with the basic techniques of broadcasting.
- be able to have understanding of electronic media content creation.
- be having the knowledge of script writing.
- be having the knowledge of online journalism.

**B. Intellectual( Cognitive/ Analytical) Skills:**
Students will be able to
- Write the script for advertisement for five different products for radio.
- Preparing a radio jingle for FM channel.
- Draw up fixed point chart for community radios.
- Write script for short news bulletins.
- Production of field based Radio features.
- Production of Studio based Radio programmes in different formats.

**C. Practical Skills**
Students will learn to:
- understand new trends in television journalism.
- introduce students techniques and skills for presentation, anchoring for television programme production.
- know the procedure and techniques of different programme formats of television news and news based programme such as Field Report, Special Report, Election
- Report, Ground Report and walk and talk programme.
- 

**D. Transferable Skills :**
Students will be able to
- write scripts of television news stories, special stories and on the spot reporting
- cover events and news based stories using mobile phones, video cameras.
- anchor, present and able to produce television news bulletin
- acquire skills and techniques of television media production
- do the editing both offline and online programme of television with using the softwares

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| Continuous Internal Evaluation(CIE) 1.Class Tests (Unit wise) 2.Student Seminars 3. In House Exams | | |
| | 40% | After Each Unit |
| | | Every week |
| | 40% | Last Week of February |
| End of Semester Exam | 40% | Last week of April onwards |

**Teaching Outline:**

| Unit | Teaching Dates |
|---|---|
| I | 11 January to 31 January |
| II | 3 February to 20 February |
| III | 24 February to 13 March |
| IV | 16 March to 15 April |
| Revision | Till 24 April |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

**Text Book(s):**

Mass Communication in India–Kewal J. Kumar

Mass Communication Journalism in India- D S Mehta

*References:*

- Radio & TV Journalism : KM Srivastva
- TV Production : Gerald Millerson
- Broadcast Journalism: PP Joshi

**E- resources**

- https://www.slideshare.net/KATAMUNEDINANI/radio-journalism-and-production-64273246

- http://www.ablongman.com/stovall6e/chp07/chp07.html

- http://www.egyankosh.ac.in/bitstream/123456789/34809/1/Unit-2.pdf

- https://core.ac.uk/download/pdf/77023622.pdf

- https://unesdoc.unesco.org/ark:/48223/pf0000001245

- http://www.nraismc.com/wp-content/uploads/2017/03/204-TV-JOURNALISM-backup.pdf

<p style="text-align:center"><strong>Course Name: Video Production-Idea to Screen</strong></p>

**Programme : BAJMC**
**Semester: IV**
**Name of the Teacher : Himanshu**
**Availability Timings: 9.00 am to 3.00 pm**
**E-mail:** Himanshucomputerlkc@gmail.com

## Objectives of the Course:

Main objective is to learn Developing programme briefs and to know about researching the topic with the knowledge of Storyboard and Script Designing, Script Layout. By the end of the course students will know about the Rules of editing, types of editing and Media Research Methodology.

## Course Content:

Video production processes right from selecting topic to the production of that programme. Students will learn developing programme briefs researching the topic, Programme Resources, Style and format, structuring the programme, Storyboard and Script Designing and Script Layout. The content also covers Media Research Methodology

## Detailed Course Contents: Available at - www.gndu.ac.in

## What will be the teaching methods:
  - Lectures : Six per week
  - Student Seminars: two per week
  - Assignments  : The students will be asked to books and to make make short movies to learn production process.
  - Power point Presentations
  - Video Based learning
  - Quiz

## Program Learning Outcomes:
( Knowledge and Understanding, Analytical Skills, Practical Skills, Transferable skills).

## Learning Outcomes:

### Knowledge and Understanding):
- Basic knowledge of Video Camera and types
- Improving video production skills
- Knowledge of camera movements
- Understanding Basics of lighting
- Knowledge of Editing, Types of editing, Storyboard and Script Designing

### B. Intellectual( Cognitive/ Analytical) Skills:

- Understanding of Researching the topic for production work
- Knowledge about working of Cameraman, Scriptwriter
- Understanding the concept of Video Recording and Editing
- Understanding Media Research Methodology

### C. Practical Skills
Students will learn to:
- Handle a Video Camera
- Video and Audio recording and editing
- Scripting a of a video production
- Storyboard
- Basics of lighting

### D. Transferable Skills :
Students will be able to
- Understand the concept of Media Research Methodology
- Understanding Content, Duration, Researching, Style and format and structuring the programme
- Storyboard and Script Designing
- Knowledge of production process

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (Unit wise) 2.Student Seminars 3. In House Exams | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **Last Week of September** |
| **End of Semester Exam** | **40%** | **Last week of November onwards** |

## Teaching Outline:

| Unit | Teaching Dates |
|---|---|
| **I** | **15 January to 30 January** |
| **II** | **1 February to 24 February** |
| **III** | **25 February to 11 March** |
| **IV** | **13 March to 3 April** |
| **Revision** | **Till Exam** |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## *References:*

1. TV Production: Gerald Millerson

2. Media Writing: Samuelson

3. Modern Radio Production: Carl Hansman Donnel.

4. Modern Radio Production: Carl Hansman

5. Broadcast Technology: Srivastava

**E- resources**

- https://www.studiobinder.com/blog/the-complete-pre-production-process/

- https://www.researchgate.net/publication/310952339_Media_Studies_Me thodology_and_Research

- https://www.transformationmarketing.com/basic-camera-movements/

- https://tubularinsights.com/video-production-lighting-camera-angles/

## CURRICULUM PLANNING AND IMPLEMENTATION
### Course Name: <u>Advertising: Concepts & Principles</u>

**Programme: B.A Journalism & Mass Communication**
**Semester: IV**
**Name of the Teacher: Prof. Muskan Sidana**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  <u>muskansidana.computerlkc@gmail.com</u>**

## <u>Objectives of the Course:</u>
This course aims at acquainting students with
1. Imparting basic concepts of advertising and its development.
2. Importance of advertising in media.
3. Encouraging graduates for self employability.
4. Inculcate knowledge of economy of media.
5. Knowledge of the functioning of advertising agencies

## <u>Course Content:</u>
The course provides an introduction to the Advertising: Definition, Origin & development, Growth of advertising in India. It explores the properties Scope (Effects on Economy/Industry), Facets of advertising (As an act of commerce, as hidden Persuader) that make it unique and uniquely powerful in studying the human mind. The course examines various types of advertisements. It also examines how people learn languages with a focus on advertising as a Communication Tool: Communication Process & Advertising, Communication Students are introduced to the principles and practice of advertising and its unique role in business and society. Creativity in advertising is examined through an exploration of the art and science of advertising and how these apparent contradictions influence principles and industry practice. Students learn how to develop and present a range of creative ideas appropriate to the various stages of effectively promoting a product, service or idea in sectors as diverse as public, private and not-for-profit.

## <u>Detailed Course Contents: Available at</u>  www.gndu.ac.in

## <u>What will be the teaching methods:</u>
- Lectures : six per week
- Student Seminars: One in a week
- Group Discussion

- Assignments : The students will be asked to read the textbook in advance and write articles on given topics
- Powerpoint Presentations
- Participatory and Experiential Learning
- Quiz

**Program Learning Outcomes:**

**(Knowledge and Understanding, Intellectual Skills, practical Skills, Transferable skills).**
**Learning Outcomes:**

**C. Knowledge and Understanding):**
Students will
- learn development of advertising and basic concepts.
- be able to know about role and importance of advertising in media.
- have the knowledge of self-employment.
- know about advertising agencies.
- know about the advertising industry and its functioning.

**B. Intellectual( Cognitive/ Analytical) Skills:**
Students will be able to
- Evaluate advertising strategies
- Explain ethics and the principled use of advertising
- Undertake consumer research
- Produce creative concepts relevant to a specific audience
- Present advertising campaign work in a professional manner

**C. Practical Skills**
Students will learn to:
- Advertisement Designing
- Finding out targets audience for products.
- Media hunt and preparing advertisementg
- Preparing advertising copy and posters
- Testing advertising copy
- Preparing a list of National and International ad. Agencies
- Creating advertising clubs

**D. Transferable Skills :**
Students will be able to

- Possess a well-developed awareness of professional practice in the context of the communication industries
- Apply theoretically informed understanding of the communication industries in independent and collaborative projects across a range of media
- Possess information literacy skills to locate, gather, organize and synthesize information across diverse platforms to inform the understanding of the communication industries

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)**<br><br>1.Class Tests (Unit wise)<br><br>2.Student Seminars<br><br>3. In House Exams | 40% | After Each Unit |
| | | Every week |
| | 40% | Last Week of February |
| **End of Semester Exam** | 40% | Last week of April onwards |

**Teaching Outline:**

| Unit | Teaching Dates |
|---|---|
| I | 11 January to 31 January |
| II | 3 February to 20 February |
| III | 24 February to 13 March |
| IV | 16 March to 15 April |
| Revision | Till 24 April |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

**Text Book(s):**

Mass Communication in India–Kewal J. Kumar

Mass Communication Journalism in India- D S Mehta

### *References:*

- Indian Broad Casting : H.R. Luthra (Publications Division)

- Television Techniques : Hoyland Beltinger (Harper & Brothers)

- Advertising Made Simple : Frank Jefkins (Rupa & Co.)

- Ogilvy on Advertising : David Ogilvy (Pan Books)

- Advertising Management : Aaker, Myers & Batra

## E- resources

- http://www.nraismc.com/wp-content/uploads/2017/03/501-ADVERTISING_CONCEPT____PRINCIPLE.pdf

- https://shodhganga.inflibnet.ac.in/bitstream/10603/208658/10/10_chapter-3.pdf

- https://www.managementstudyguide.com/objectives-importance-of-advertising.htm

- https://economictimes.indiatimes.com/definition/advertising

- http://www.yourarticlelibrary.com/advertising/advantages-of-advertising-12-major-advantages-of-advertising-explained/25872

- http://www.economicsdiscussion.net/advertising/what-are-the-different-types-of-advertising/31775

- https://www.businessmanagementideas.com/advertising-2/classification-of-advertising/classification-of-advertising/18231

## CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: Current Affairs

**Programme : B.A (Journalism and Mass Communication)**
**Semester : VI**
**Name of the Teacher : Ms Avneet Kaur**
**Availability Timings : 9.00 AM to 3.30 PM**
**E-mail :  Avneetcomputerlkc@gmail.com**

## <u>Objectives of the Course:</u>

To develop tools and guidelines to assist students in the assessment of current effects in the different stages of life. It provides up to date information starting from local to international levels. It prepares students for tomorrow. It promotes growth in desirable skills and enhances the mental horizon of students. It develops insight into the democratic process and this prepares students for better social living.

## <u>Course Content:</u>

This course confers events and happenings of last six months with special reference to political and social issue. It aims at informing major current issues of parliament (budget), major issues of different political parties (agenda), major current issues in media and study of current debates on social issues. It also focuses on health and education wherein the current issues in health, current issues of women and child rights, issues related to human rights and current issues in education system will be paid attention upon. This course also covers business, sports and security in which current issues of business, entertainment, sports and current issues of internal and external security are discussed. In the epilogue the light is thrown on feminist media perspective, media and violence, media and marginalized group.

## <u>Detailed Course Contents: Available at</u>  www.gndu.ac.in

## <u>What will be the teaching methods:</u>

- Lectures : Six per week
- Student Seminars: Two per week
- Assignments : The students will be asked to read the Newspapers daily advance and write articles on given topics
- Group discussions

- Participatory and Experiential Learning
- Quiz and Debates

**Program Learning Outcomes:**

**(Knowledge and Understanding, Intellectual Skills, Practical Skills, Transferable skills).**
**Learning Outcomes:**

**Y. Knowledge and Understanding):**
Students will:
- have knowledge about the current issues.
- have clear vision and perspective of local, National and International affairs
- will have proper knowledge and understanding of various fields including Politics, Business, Sports, Health etc

**B. Intellectual (Cognitive/ Analytical) Skills:**
Students will be able to
- understand and analyze the Political scenario of the country along with international trends in politics.
- analyze and learn International Relations
- have a detailed knowledge about various important International Organizations such as UNICEF, UNESCO, WHO, WTO etc.
- think critically about the various streams such as Science, Economics, Social, Geography etc .

**C. Practical Skills**
Students will learn to:
- Develop a habit of reading News daily.
- Assign their crucial time to current issues which in turn will help the students to crack competitive exams.
- Become good and responsible citizens of the nation.

**D. Transferable Skills :**
Students will be able to
- disseminate information and knowledge about the current issues to their peers and people around them.

- actively participate in various Debates, Quiz, Group Discussions and various other competitions to display better cross cultural communications.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** <br><br> 1.Class Tests (Unit wise) <br><br> 2.Student Seminars <br><br> 3. In House Exams | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **Last Week of March** |
| **End of Semester Exam** | **40%** | **Last week of April onwards** |

**Teaching Outline:**

| Unit | Teaching Dates |
|---|---|
| **I** | **11 January to 08 February** |
| **II** | **10 February to 28 February** |
| **III** | **02 March to 20 March** |
| **IV** | **23 March to 01 April** |
| **Revision** | **Till 15 April** |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

**Text Books:**

- Competitor Success Review

- Manorama Year Book

- Focal Study

**E- resources**

- https://www.jagranjosh.com/current-affairs/top-5-current-affairs-14-january-2020-1579005595-1

- https://www.fresherslive.com/current-affairs/january-2020

- https://currentaffairs.gktoday.in/month/current-affairs-january-2020

**Course Name: Perspective of Audio Sound**

**Programme : BAJMC**
**Semester: VI**
**Name of the Teacher: Himanshu**
**Availability Timings: 9.00 am to 3.00 pm**
**E-mail:** **Himanshucomputerlkc@gmail.com**

## Objectives of the Course:

Main objective is to learn various terms and concepts in Audio Production. By the end of the course students will know about Sound, Propagation and Acoustic Reverberation, Microphones and working of Microphones, Principles of Magnetic Recording and Digital Recording Systems and use of Audio Cables & Connectors. Knowledge of Audio Editing.

## Course Content:

Students will develop Understanding of Sound and Microphones and their Selection. Students will learn about Principles of Magnetic Recording and Digital Recording Systems, Audio Cables & Connectors, Noise & Distortion Ratio, Sound Engineer role in production crew, Use of Audio console, Voice Modulation, Mono, Stereo and Surround Sound. Knowledge of Audio Editing System.

**Detailed Course Contents: Available at -** www.gndu.ac.in

## What will be the teaching methods:
- Lectures : six per week
- Student Seminars : Two per week
- Assignments : The students will be asked to read the books and to do practical on audio recording devices.
- Power point Presentations
- Participatory and Experiential Learning
- Quiz

**Program Learning Outcomes:**
( Knowledge and Understanding, Analytical Skills, Practical Skills,
Transferable skills)

**Learning Outcomes:**

### A. Knowledge and Understanding):
- Understanding Technical aspects of Sound recording
- Knowledge of Microphones and their Selection
- Uses of Audio Cables & Connectors
- Understanding various terms and concepts in Audio

### B. Intellectual( Cognitive/ Analytical) Skills:

- Understanding of various microphones and their uses
- Knowledge of Audio Recording System
- Understanding of Voice Modulation
- Understanding of the Noise & Distortion Ratio

### C. Practical Skills
Students will learn to:
- Use of Audio Console
- Use of Microphones
- Knowledge of Audio Editing tools

### D. Transferable Skills :
Students will be able to
- Understanding of Sound Systems
- Composer and sound designer
- Full-time employment as an Audio recordist

| Modes of Assessment | Minimum Score Required (to Qualify for the | Schedule |
|---|---|---|

| | **Next Exam/Class)** | |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** | | |
| | **40%** | **After Each Unit** |
| 1.Class Tests (Unit wise) | | **Every week** |
| 2.Student Seminars | | |
| 3. In House Exams | **40%** | **Last Week of September** |
| **End of Semester Exam** | **40%** | **Last week of November onwards** |

**Teaching Outline:**

| Unit | Teaching Dates |
|---|---|
| I | 15 January to 30 January |
| II | 1 February to 24 February |
| III | 25 February to 11 March |
| IV | 13 March to 27 March |
| V | 28 March to 10 April |
| Revision | Till  Exam |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

**Text Book(s):**

Notes

*References:*

*1. Basic of Video Sound by Das Lyver*

*2. Radio Production by Robert Mc Leish*

*3. Audio Production & Critical Listening: Technical Ear Training by Jason Gorey*

**E- resources**

- https://ehomerecordingstudio.com/types-of-microphones/

- https://homerecording.com/bbs/general-discussions/digital-recording-and-computers/what-difference-between-linear-non-linear-audio-video-49769/

- https://blog.prosoundeffects.com/the-20-most-popular-types-of-sound-effects

<p style="text-align:center;">**Course Name: Video Electronic Film Production**</p>

**Programme : BAJMC**
**Semester: VI**
**Name of the Teacher : Himanshu**
**Availability Timings: 9.00 am to 3.00 pm**
**E-mail:**  Himanshucomputerlkc@gmail.com

## Objectives of the Course:

This course aims at production of film and other video content in the field of film making. It also aims at knowledge of Storyboard and Scripting. By the end of the course students will know about the Pre-Production, Production and Post-Production in detail. Knowledge of Special Effects for film making.

## Course Content:

Video Electronic Film Production includes work of single camera and multi-camera productions. Production process includes pre-production planning, proposal writing, script writing, shooting on set and on location, and editing. This program is ideal for students interested in creating film and video content of all types such as feature films, television, concerts and music videos, sports, reality TV, documentary films, educational videos.

**Detailed Course Contents: Available at -** www.gndu.ac.in

## What will be the teaching methods:

- Lectures : six per week
- Student Seminars: two per week
- Assignments  : The students will be asked to books and to make
- make short movies to learn production process
- Power point Presentations
- Video Based Learning

## Program Learning Outcomes:
( Knowledge and Understanding, Analytical Skills, Practical Skills, Transferable skills).

## Learning Outcomes:

### Knowledge and Understanding):

- Basic knowledge of Video Camera and types
- Improving video production skills
- Knowledge of camera movements
- Understanding Basics of lighting
- Knowledge of Editing, Types of editing, Storyboard and Script Designing
- Sound Effects knowledge

## B. Intellectual( Cognitive/ Analytical) Skills:

- Knowledge about working of Cameraman, Scriptwriter
- Understanding the concept of Video Recording and Editing
- Understanding Media Research Methodology
- Pre-Production, Production and Post-Production

## C. Practical Skills
Students will learn to:

- Video Film Production Basics
- Video and Audio recording and editing
- Scripting a of a Short Movie
- Storyboard Prepration

## D. Transferable Skills :
Students will be able to

- Knowledge of Camera operation, Cinematography, Direction, Documentary filmmaker
- Knowledge of production process

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| Continuous Internal Evaluation(CIE) | | |
| | 40% | After Each Unit |

| | | |
|---|---|---|
| 1.Class Tests (Unit wise) | | **Every week** |
| 2.Student Seminars<br><br>3. In House Exams | **40%** | **Last Week of September** |
| **End of Semester Exam** | **40%** | **Last week of November onwards** |

**Teaching Outline:**

| Unit | Teaching Dates |
|---|---|
| **I** | **15 January to 30 January** |
| **II** | **1 February to 24 February** |
| **III** | **25 February to 11 March** |
| **IV** | **13 March to 3 April** |
| **Revision** | **Till Exam** |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

*References:*

1. Production Management for Film & Video by Richard Gates

2. Video: Digital Comunication & Production by Jim Stinson

3. Televison Production by Gerald Millerson

4. Production Algebra: Handbook of Production Assistant by Mark Adle

**E- resources**

- https://www.futurelearn.com/courses/film-production/0/steps/12304

- https://www.studiobinder.com/blog/the-complete-pre-production-process/

# CURRICULUM PLANNING AND IMPLEMENTATION
## Course Name: <u>Specialized Reporting</u>

**Programme: B.A Journalism & Mass Communication**
**Semester: VI**
**Name of the Teacher: Prof. Muskan Sidana**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  <u>muskansidana.computerlkc@gmail.com</u>**

## <u>Objectives of the Course:</u>
This course aims at acquainting students with
- Basics of news writing.
- the theory, methods, and practice of gathering information and writing news.
- knowledge of news and backgrounder.
- basics of reporting
- different types of reporting.
- understanding of specialized reporting.
- general understanding of art culture and sports reporting.
- knowledge of crime reporting.
- 

## <u>Course Content:</u>
The course provides an overview of news journalism, its history, future and role in a democratic society. It will cover the basics of journalism values, principles, law, ethics, writing and reporting.
It explores the properties of Comprehensive and accurate news presentation with emphasis on interview techniques and coverage of major news stories.
It also covers various other aspects like writing feature articles for newspapers, magazines or other media; specialized reporting and writing techniques.
**<u>Detailed Course Contents: Available at</u>**  www.gndu.ac.in

## <u>What will be the teaching methods:</u>
- Lectures : six per week
- Student Seminars: One in a week
- Group Discussion
- Assignments : The students will be asked to read the textbook in advance and write articles on given topics
- Powerpoint Presentations
- Participatory and Experiential Learning
- Quiz

## Program Learning Outcomes:

## (Knowledge and Understanding, Intellectual Skills, practical Skills, Transferable skills).
## Learning Outcomes:

### D. Knowledge and Understanding):
Students will

- be able to understand the basics of reporting
- be able to familiarize themselves with different types of reporting
- be able to create understanding of specialized reporting
- be able to develop the general understanding of art culture and sports reporting.
- be able to know about crime reporting.

### B. Intellectual( Cognitive/ Analytical) Skills:
Students will be able to
- know about the basics of news writing.
- have the knowledge of the theory, methods, and practice of gathering information and writing news.
- understand different writing techniques.
- have the knowledge of web writing.
- Have the knowledge of news and its various resources.

### C. Practical Skills
Students will learn to:
- Write any five news report for print medium
- Write any five news report for Television
- Write any five news report for web
- Will be able to know pros and cons of various different beats.

### D. Transferable Skills :
Students will be able to
- Differentiate between various beats
- Will know about authentic sources

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| | | |

| Continuous Internal Evaluation(CIE) | | |
|---|---|---|
| 1.Class Tests (Unit wise) | 40% | After Each Unit |
| 2.Student Seminars | | Every week |
| 3. In House Exams | 40% | Last Week of February |
| End of Semester Exam | 40% | Last week of April onwards |

**Teaching Outline:**

| Unit | Teaching Dates |
|---|---|
| I-II | 11 January to 31 January |
| III-V | 3 February to 20 February |
| VI-VIII | 24 February to 13 March |
| IX-XI | 16 March to 15 April |
| Revision | Till 24 April |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## Text Book(s):

Mass Communication in India–Kewal J. Kumar

Handbook of Reporting & Communication Skills by V. S. Gupta
## *References:*

- Journalism: Editing, Reporting & Feature Writing by N.Basu, N.Prabhakar
- Handbook of Reporting & Communication Skills by V. S. Gupta
- News Reporting & Editing: An Overview by Suhas Chakravarthy
- Specialized Reporting by David Remick

### E- resources

- https://www.kullabs.com/classes/subjects/units/lessons/notes/note-detail/7201

- http://www.nraismc.com/wp-content/uploads/2018/04/Specialised-Reporting.pdf

- https://mcom201newsreporting.files.wordpress.com/2014/11/specialized-reporting-chap.pdf

- https://www.researchgate.net/publication/332078682_Beat_Journalism_and_Reporting

- https://www.routledgehandbooks.com/doi/10.4324/9780203483794.ch3

- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5769179/

- https://www.slideshare.net/DAMANJOTKAUR3/page-3-journalism-2016-djkppt

- https://en.unesco.org/investigative-journalism

- https://journalism.fandom.com/wiki/Advocacy_journalism

- https://wwf.panda.org/?158642/Environmental-journalism-and-its-challenges

- https://www.theguardian.com/cities/2015/may/20/gonzo-journalism-cities-tribes-ethnographer-hunter-s-thompson

<u>**CURRICULUM PLANNING AND IMPLEMENTATION**</u>

<u>**Course Name**</u>**: Principles of Digital Electronics**

**Programme : B.Sc(IT)**
**Semester: II**
**Name of the Teacher: Ratnakar Mann**
**Availability Timings: 9.00 AM to 3.30 PM**
**E-mail:** ratnakarcomputerlkc@gmail.com

<u>**Objectives of the Course :**</u>

This course is aimed at acquainting students with the principles of digital electronics. The course aims to equip students with the basic building blocks of all digital circuits laying more emphasis on logic gates, combinational circuits and sequential circuits. The course also aims to impart fundamental knowledge about construction of computer memory.

<u>**Course Content:**</u>

The course begins with the introduction to number system and various codes used by computer to comprehend digital data. The units are logically divided into four sections each laying emphasis on one fundamental construct of digital electronics. Logic gates, postulates of Boolean Algebra, combinational circuits, sequential circuits, semiconductor memories are discussed elaborately.

<u>**Detailed Course Contents: Available at**</u> www.gndu.ac.in

<u>**What will be the teaching methods:**</u>
- Lectures : six per week
- Student Seminars: two per week
- Assignments : The students will be asked to submit assignment after each unit is completed in the class.
- Powerpoint Presentations
- Providing e-notes
- Providing information to students on similar courses available on swayam and nptel
- Quiz

**Program Learning Outcomes:**

**Students will learn how to :**

- **Convert numbers from one number system to another.**
- **Represent information using Binary Codes.**
- **Draw Logic circuit Diagrams and write Truth Tables for the functions.**
- **Solve and minimize expressions of Boolean Algebra.**
- **Draw Combinational Circuits and Sequential Circuits.**
- **Perform address selection in semiconductor memory chips.**

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)**<br><br>1.Class Tests (Unit wise)<br><br>2.Student Seminars<br><br>3. In House Exams | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **Last Week of March** |
| **End of Semester Exam** | **40%** | **Last week of April onwards** |

**Teaching Outline :**

| Unit | Topics | Teaching Dates |
|---|---|---|
| I | Number System: Introduction, number conversion system , binary arithmetic, representation of signed binary numbers, 1's and 2's complement, Codes: straight binary code, BCD Code Excess3 Code, Grey Code ASCII, | 11 Jan – 2 Feb 2019 |

| | | |
|---|---|---|
| | Integer and floating point representation | |
| II | Logic Gates and Boolean Algebra: Logic gates, Universal Gates, Boolean algebra and Minimization techniques, canonical forms of Boolean expressions, K-Map | 4Feb - 23Feb |
| III | Combinational Circuits: Adder, Subtracter, Multiplexer, Demultiplexer, Decoder, Encoder Sequential Circuits: Flip-flops, clocks and timers, registers, counter | 25 Feb – 16 March |
| IV | Semiconductor memories: Introduction, Static and dynamic devices, read only & random access memory chips, PROMS and EPROMS Address selection logic. Read and write control timing diagrams for ICs | 18 March – 10 April |
| Revision | | 10 April onwards |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

**Text Book(s):**

Principles of Digital Electronics -  Unimax Publishers

**References :**

 1. Integrated Electronics by Millman, Halkias McGraw Hill.

 2. Malvino: Digital Computer Electronics, McGraw Hill.

3. D.A. Hodges & H.G. Jackson, Analysis and Design of Integrated Circuits, International, 1983.

 4. Joph. F. Wakerley, Digital Principles and Practices.

 5. Ujjenbeck, John: Digital Electronics: A Modern Approach, Prentice Hall, 1994.

6. Mano, M. Morris: Digital Logic and Computer Design, Edition, 1993.

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**CURRICULUM PLANNING AND IMPLEMENTATION**

**Subject Name: Introduction to Programming C++**

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**Programme : B.Sc.(IT)**

**Semester: II**

**Name of the Teacher: Heena Kapoor**

**Availability Timings: 9.00 AM to 3.00 PM**

**E-mail: arora.heena86@gmail.com**

**Objectives:**

- The primary goal is to develop the programming skills in C++.
- To get good knowledge of OOPs approach so that students can make software in the later stage of their course.
- This will help the students to frame the real world modeling of data and its associated functions.
- This course also aims to an understanding of various concepts of C++ with the help of which one can create its own data types that can be used globally in different program files.

**Course Content**

This course includes Object Oriented Programming using C++, Objects and Classes, Member functions and data, private & public, constructor & destructor, Function Overloading, Overloading unary and binary operators, Type Conversion using Operator Overloading, Concept of inheritance, Base & derived classes, Access Specifiers, Class Hierarchies, Types of Inheritance with examples, Virtual functions, friend functions, static function, this pointer, polymorphism, Types of Polymorphism with examples, templates, class templates.
**Detailed Course Contents**: Available at  www.gndu.ac.in

**The Teaching methods used:**
- Lectures : six per week
- Student Seminars: once a week
- Assignments: The students are asked to read the previous question papers and prepare themselves topic wise for the exam by making assignments according to the questions in previous exam papers.
- PowerPoint Presentations

**Planning and Implementation of the curriculum**

| Content/Topic Cover | Planned Date | Mode of Delivery |
|---|---|---|
| Programming Paradigms: Introduction to the object oriented approach towards programming by discussing Traditional, Structured | Jan 15,2020 | Lecture using Black Board, Chalk. |

| | | |
|---|---|---|
| Programming methodology. | | |
| Characteristics of OOP: Objects & Classes, Instance, Encapsulation, Data Hiding, Abstraction, Inheritance, Messages, Method, Polymorphism and its types. | Jan 21,2020 | Lecture using Black Board, Chalk & PPT through Projector |
| Overview of C++, I/O using cout and cin | Jan 29, 2020 | Lecture using Black Board, Chalk |
| Objects and Classes, Member functions and data, private & public. | Feb 4, 2020 | Lecture using Black Board, Chalk |
| Array of objects, passing objects to functions, function returning objects, pointer to object, passing objects by value, address and reference. | Feb 8, 2020 | Lecture using Black Board, Chalk |
| Constructor & destructor, Constructor Overloading, Types of Constructors. | Feb 18, 2020 | Lecture using Black Board, Chalk and a doc file was given to give detailed explanation of the topic. |
| Function Overloading, Default Arguments, Ambiguity in Function Overloading. | Feb 26, 2020 | Lecture using Black Board, Chalk |
| Overloading unary and binary operators, Type Conversion using Operator Overloading. | March 8, 2020 | Lecture using Black Board, Chalk<br><br>And PPT through Projector |
| Concept of inheritance, Base & derived classes, Access Specifiers, Class Hierarchies | March 15, 2020 | Lecture using Black Board, Chalk |
| Types of Inheritance with examples. Candidate & Abstract Classes to be examples of the Design process. | March 20, 2020 | Lecture using Black Board, Chalk |
| Virtual functions, friend functions, static function, this pointer | April 1, 2020 | Lecture using Black Board, Chalk |
| Polymorphism, Types of Polymorphism with examples | April 8, 2020 | Lecture using Black Board, Chalk |
| Templates, class templates. | April 11, 2020 | Lecture using Black Board, Chalk |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

**References:**
- Teach yourself C++, Herbert Schildth, Tata McGraw Hill.

- Designing Object Oriented Software Rebacca Wirfs - Brock Brian Wilerson, PHI.
- Object Oriented Programming in Turbo C++, Robert Lafore, Galgotia Publication.
- Designing Object Oriented Applications using C++ & Booch Method, Robert C. Martin.
- How to solve it by computer, By A.G.Dromey, PHI publications.

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name:  Paper – III: Numerical Methods and Statistical Techniques

**Programme:BSC(IT)**

**Semester: II**

**Name of the Teacher: Jaspreet kaur khera**

**Availability Timings: 9.00 AM to 3.00 PM**

**E-mail:  jasskheracomputerlkc@gmail.com**

## Objectives of the Course:

This course aims to an understanding of the introduction to Numerical Methods, Numerical methods versus numerical analysis, the various methods to solve linear and non linear as well as the methods to get solutions to Simultaneous Equations. Students will also get to know about stats as understanding how to find Mean, Median, Mode.
Measure of Dispersion, Mean Deviation, Standard Deviation, Co–efficient of Variation,

## Course Content:  Introduction to Numerical Methods, Numerical methods versus numerical analysis,Non–linear Equations, iterative Solutions, Multiple roots and other difficulties, Interpolation methods, Methods of bi–section, False position method, Newton Raphson – method.Simultaneous Solution of Equations: Gauss Elimination Method, Gauss Jordan Method,

numerical Integration and different Trapezoidal Rule, Simpson's 3/8 Rule.
Interpolation and Curve Fitting, Lagrangian Polynomials, Newton's Methods: Forward Difference Method, Backward Difference Method Divided Difference Method.
Measure of Central Tendency, Mean Arithmetic, Mean Geometric, Mean Harmonic, Mean, Median, Mode.
Measure of Dispersion, Mean Deviation, Standard Deviation, Co–efficient of Variation

## Detailed Course Contents: Available at www.gndu.ac.in

## The Teaching methods used:

- Lectures : six per week
- Student Seminars: two per week
- Assignments : The students will be asked to practice and solve numerical methods problems from textbook in advance and learn the theoretical concepts as well.

## (Knowledge and Understanding)

## Transferable skills).Learning Outcomes:Knowledge and Understanding:

- Students will know what numerical methods.
- Students will learn about the various methods and solve the questions
- Students will learn about the stastistical techniques.
- Students will learn about how to find mean, median, mode.

## Transferable Skills :

Students will be able to

- learn to think more creatively as well as comparatively.

| Modes of Assessment | Minimum  Score Required (to Qualify for the | Schedule |
|---|---|---|

| | Next Exam/Class) | |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** | | |
| | **40%** | **After Each Unit** |
| 1.Class Tests (Unit wise) | | **Every week** |
| 2.Student Seminars | | |
| 3. In House Exams | **40%** | **Last Week of October** |
| **End of Semester Exam** | **40%** | **Third week of November onwards** |

**Teaching Outline:**

| Unit | Teaching Dates |
|---|---|
| **I** | **16 January to 24 january** |
| **II** | **27 january to 7 feb** |
| **III** | **8 feb to 14 feb** |
| **IV** | **17 feb to 16 march** |
| **Revision** | **Till 23 april** |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams

**TextBook(s):** 1. V. Rajaraman: Computer Oriented Numerical Methods, Prentice Hall of India PrivateLtd., New Delhi
2. B.S. Grewal, Numerical Methods for Engineering, Sultan Chand Publication.
3. Numerical Methods and Statistical Techniques by UNIMAX publications

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**CURRICULUM PLANNING AND IMPLEMENTATION**
**PAPER NAME: Paper – IV: Practical–I**

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**CLASS: B.Sc. (IT)**
**Semester: II**
**Name: MANDEEP SINGH**
**Email id:** lkcmandeep@gmail.com

## Objectives of the Course:

The objectives of the course are to develop numerical methods aided by technology to solve algebraic, transcendental, and differential equations, and to calculate derivatives and integrals. The course will program the various numerical methods problems using C++. The course will further develop problem solving skills**:**
- Perform an error analysis using C++ for various numerical methods
- Implement appropriate numerical methods in C++ to solve a differential equation
- Implement appropriate numerical methods to solve a linear system of equations using C++
- Implement appropriate numerical methods to evaluate a derivative at a value using C++
- Implement appropriate numerical methods to calculate a definite integral using C++

## Course Contents

Numerical methods are the basic algorithms underpinning computer predictions in modern systems science. Such methods include techniques for simple optimization, interpolation from the known to the unknown, linear algebra underlying systems of equations, ordinary differential equations to simulate systems, and stochastic simulation under random influences. Topics covered are:
- Numerical Methods, Numerical methods versus numerical analysis, Errors and Measures of Errors.
- Non–linear Equations, Iterative Solutions, Multiple roots and other difficulties, Interpolation methods, Methods of bi–section, False position method, Newton Raphson Method.
- Simultaneous Solution of Equations, Gauss Elimination Method Gauss Jordan Method.
- Numerical Integration and different Trapezoidal Rule, Simpson's 3/8 Rule.
- Interpolation and Curve Fitting, Lagrangian Polynomials,
- Newton's Methods: Forward Difference Method, Backward Difference Method Divided Difference Method.
- Least square fit linear trend, Non–linear trend.
- Statistical Techniques
- Measure of Central Tendency, Measures of dispersion, Co–efficient of variation, Correlation

## Weekly Schedule:

| Week 1 & 2 | Implementation of Bisection Method, False position method & Newton Raphson Method |
| --- | --- |
| Week 3 | Gauss Elimination and Gauss Jordan Method. |
| Week 4 & 5 | Trapezoidal Rule, Simpson's 1/3 & 3/8 Rule. |
| Week 6 & 7 | Interpolation and Curve Fitting, Lagrangian Polynomials, |
| Week 8 & 9 | Newton's Forward Difference, Backward Difference and Divided Difference Method. |
| Week 10 | Least square fit linear trend, Non–linear trend. |

| Week 11 & 12 | Measures of Central Tendency |
|---|---|
| Week 13 | Measures of dispersion |
| Week 14 | Correlation |

## References:

- V. Rajaraman: Computer Oriented Numerical Methods, Prentice Hall of India Private Ltd., New Delhi.
- B.S. Grewal, Numerical Methods for Engineering, Sultan Chand Publication
- R.S Salaria, Computer Oriented Numerical Methods, Khanna Publishers, New Delhi.

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: Drug Abuse: Problem, Management and Prevention

**Programme: BCA, B.Sc. IT, B.Voc. SD, B.Voc. PT, BAJMC, BDMM**
**Semester: II**
**Name of the Teacher: ShefaliTaneja**
**Availability Timings: 9.00 AM to 3.30 PM**
**E-mail:** shefalilkc@gmail.com

## Objectives of the Course:

This course aims at acquainting students with management and prevention of drug abuse. It aims to teach students various preventive strategies and controlling techniques of drug abuse.

## Course Content:

The course provides an introduction to various preventive and controlling techniques of drug abuse. It focuses on the role of family, school, media and legislation in prevention of drug abuse. The course examines these strategies and aims to teach students on how to practically use these techniques that help in dealing with drug addiction/abuse.

## Detailed Course Contents: Available at www.gndu.ac.in

## What will be the teaching methods:

- Lectures : three per week
- Student Seminars: one per week
- Two assignments will be given in a month based on the topics covered
- Power-point Presentations
- Participatory and Experiential Learning

## Program Learning Outcomes:

41. Students will understand about various preventive strategies of drug abuse.
42. They will have deeper knowledge of how to control drug abuse.
43. Students will be able to identify which technique is best suitable for each and every person who abuse drugs.
44. They will understand about how family plays an important role in prevention of drug abuse.

45. Students will have knowledge about counseling and how it can be provided in schools to prevent drug abuse.
46. Apart from these preventive measures, students will gain knowledge about how media can play an important role in controlling drug abuse.
47. *The course will help in spreading awareness about how legislation can play a vital role in controlling drug abuse.*
48. *Students will be able to implement these strategies in real life and help those who abuse drugs.*

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)**<br><br>1.Class Tests (Unit wise)<br><br>2.Student Seminars<br><br>3. In House Exams | | |
| | 40% | After Each Unit |
| | | Every week |
| | 40% | Last Week of September |
| **End of Semester Exam** | 40% | Last week of November onwards |

## Teaching Outline:

| Unit | Teaching Dates |
|---|---|
| I | 11 January to 05 February |
| II | 06 February to 29 February |
| III | 02 March to 25 March |
| IV | 26 March to 18 April |
| Revision | Till 30 April |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## Text Book(s):

Kishore, K. (2018). Drug Abuse: Problem, Management and Prevention. New Delhi: Modern Publishers.

## *References:*

1. Ahuja, Ram (2003), Social Problems in India, Rawat Publication, Jaipur.

2. Extent, Pattern and Trend of Drug Use in India, Ministry of Social Justice and Empowerment, Government of India, 2004.

3. Inciardi, J.A. 1981. The Drug Crime Connection. Beverly Hills: Sage Publications.

4. Kapoor. T. (1985) Drug epidemic among Indian Youth, New Delhi: Mittal Pub.

5. Kessel, Neil and Henry Walton. 1982, Alcohalism.Harmond Worth: Penguin Books.

6. Modi, Ishwar and Modi, Shalini (1997) Drugs: Addiction and Prevention, Jaipur: Rawat Publication.

7. National Household Survey of Alcohol and Drug abuse. (2003) New Delhi, Clinical Epidemiological Unit, All India Institute of Medical Sciences, 2004.

8. Ross Coomber and Others. 2013, Key Concept in Drugs and Society. New Delhi: Sage Publications.

9. Sain, Bhim 1991, Drug Addiction Alcoholism, Smoking obscenity New Delhi: Mittal Publications.

10. Sandhu, Ranvinder Singh, 2009, Drug Addiction in Punjab: A Sociological Study. Amritsar: Guru Nanak Dev University.

11. Singh, Chandra Paul 2000. Alcohol and Dependence among Industrial Workers: Delhi: Shipra.

12. Sussman, S and Ames, S.L. (2008). Drug Abuse: Concepts, Prevention and Cessation, Cambridge University Press.

## E- resources

- Verma, P.S. 2017, "Punjab's Drug Problem: Contours and Characterstics", Economic and Political Weekly, Vol. LII, No. 3, P.P. 40-43.

- World Drug Report 2016, United Nations office of Drug and Crime.

- World Drug Report 2017, United Nations office of Drug and Crime.

**Course Name: Database Management System**

**Programme : BSC(IT)**
**Semester: IV**
**Name of the Teacher: Pallavi Sood**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  pallavicomputerlkc@gmail.com**

**<u>Objectives of the Course:</u>**
Data Management is one of the areas of Computer Science that has applications in almost every field. The DBMS class (Data Base Management Systems) for college students emphasizes the importance of the effective storage, retrieval and protection of information in any domain. The DBMS class teaches students to create and maintain their own database systems using software readily available in the industry such as Oracle or MS Access and normalize the relations using normalization. It also provides knowledge on theoretical concepts like relational algebra and query processing.

**<u>Course Content:</u>**
The course provides an introduction to data, field, record, file, database, database management system, structure of database system, advantages and disadvantages, levels of database system, Relational model, Network Model, Hierarchical Model, E-R Diagram, different keys used in relational system, DBA, Normalization, concurrency control and management, security and recovery of database, SQL, PL/SQL,  introduction to Big data and analytics, introduction to NOSQL.

**<u>Detailed Course Contents: Available at</u>**  www.gndu.ac.in

**<u>The Teaching methods used:</u>**
  - Lectures : six per week
  - Student Seminars: two per week
  - Assignments : The students will be asked to read the textbook in advance and write articles on given topics
  - PowerPoint Presentations

**<u>Program Learning Outcomes:</u>**

**<u>Knowledge and Understanding</u>:**
  - Students will learn about Data, Information, Field, Record, Table, Database.
  - Students will learn about various keys used in relational system
  - Students will understand difference between Hierarchical Model, Network Model and Relational Model.
  - Students will understand and be able to describe the differences between intranet, extranet and internet.
  - Students will understand the responsibilities of DBA.
  - Students will learn about normalization and to convert unnormalized relation into normalized one.

### Practical Skills
- Students will learn How to draw E-R diagrams to show various entities and relationship between entities
- Students will learn how to create tables using SQL.
- Students will learn how to apply integrity constraints on relations.
- Students will learn how to create views, sequences, indexes, Procedures, Triggers, Cursors and Packages.

### Teaching Outline:

| Topic | Teaching Dates |
|---|---|
| Introduction to data, field, record, file, database, Introduction to database management system | 11 January 2020 - 21 January 2020 |
| Structure of database system, advantages and disadvantages, Levels of database system | 22 January 2020 - 29 January 2020 |
| Hierarchical Model, Network Model, Relational Model, Comparison of models | 29 January 2020 – 5 February 2020 |
| Different keys used in a relational model, E-R model | 6 February 2020- 13 February 2020 |
| DBA, responsibility of DBA, DBTG | 14 February 2020 - 21 February 2020 |
| Normalization | 22 February 2020 – 1 March 2020 |
| Concurrency control, protection, security of database | 2 March 2020 – 9 March 2020 |
| SQL: DDL, DML statements | 10 March 2020 – 17 March 2020 |
| SQL: DCL, TCL statements, Join methods, Built-in functions ,Views | 18 March 2020 – 25 March 2020 |
| Sequences, Index, Cursors, Triggers | 26 March 2020- 2 April 2020 |
| Procedures, Functions, Packages | 3 April 2020 – 10 April 2020 |
| Introduction to Big data & Analytics, Introduction to NOSQL | 11 April 2020 – 20 April 2020 |
| Revision | Till 30 April 2020 |

### Attendance Policy
Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

### *References:*

26. Introduction to Database System by C.J. Date.
27. Database Management System by B.C. Desai.
28. Database Concept by Korth.
29. Simplified Approach to DBMS- Kalyani Publishers.
30. Oracle- Developer- 2000 by Ivan Bayross.
31. Database System Concepts & Oracle(SQL/PLSQL)- AP Publishers.

**E- resources**

- https://beginnersbook.com/2015/05/normalization-in-dbms/

- http://ecomputernotes.com/fundamental/what-is-a-database/what-is-dba

- https://www.cse.iitb.ac.in/~sudarsha/db-book/slide-dir/ch16.pdf

- http://ecomputernotes.com/database-system/adv-database/architecture-of-dbtg-model

- http://www.sql-join.com/sql-join-types/

## CURRICULUM PLANNING AND IMPLEMENTATION

### Subject Name: INTERNET APPLICATIONS

**Programme : B.sc IT**

**Semester: IV**

**Name of the Teacher: Anupriya Sharma**

**Availability Timings: 9.00 AM to 3.00 PM**

**E-mail: anucomputerlkc@gmail.com**

**Objectives:**

- The primary goal is to prepare students for full knowelege of internet its application and working of Internet
- To get good knowledge of  internet protocol,working of all protocols
- Also you can learn  how to design web pages in HTML practically.

  **Course Content**

- This course explains internet its applications protocols etc.
- The course also includes all basic means of HTML and introduction to Intranet and Extranet.

**Weekly 6 Lectures.**

**Planning and Implementation of the curriculum**

| Content/Topic Cover | Planned Date | Mode of Delivery |
|---|---|---|
| Introduction : About internet and its working, business use of internet | Jan 15,2020 | Lecture using Black Board, Chalk and notes. |
| services effect by internet, evaluation of Internet, Internet Service Provider(ISP), | Jan 21,2020 | Lecture using Black Board, Chalk |
| windows environment for dial up networking (connecting to internet), audio on internet, internet addressing (DNS) and IP addresses. advantages and disadvantages of internet | Jan 28, 2020 | Lecture using PPT |

| | | |
|---|---|---|
| E–Mail Basic Introduction, advantage and disadvantage, structure of an email message, working of e–mail (sending and receiving messages), managing email (creating new folder, deleting messages, forwarding messages, filtering messages, implementation of outlook express. | Feb 4, 2020 | Lecture using white board, marker by drawing diagram on working of e-mail |
| Internet protocol Introduction, tile transfer protocol (FTP), Gopher, Telnet, other protocols like HTTP and TCP/IP. . | Feb11 , 2020 | Lecture using white board, marker |
| WWW introduction, working of WWW, Web browsing (opening, viewing, saving and printing a web page and bookmark), web designing using HTML, DHTML with programming techniques | Feb 19, 2020 | Lecture using white board, marker by writing source code of web page. |
| Search engine: About search engine, component of search engine, working of search engine,difference between search engine and web directory. | March 10, 2020 | Lecture using white board, marker |
| Internet and extranet: Introduction, application of intranet, business value of intranet | March 18, 2020 | Lecture using white board, marker |
| working of intranet, role of extranet, working of extranet, difference between intranet and extranet. | March 25 , 2020 | Lecture using white board, marker |
| difference between intranet and extranet. | April 6, 2020 | Lecture using white board, marker |

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# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: Java Programming

**Programme :BSC IT**
**Semester: IV**
**Name of the Teacher: ___Savita____**
**Availability Timings: 9.00 AM to 3.30 PM**
**E-mail:** savitacomputetklc@gmail.com

## Objectives of the Course:

- Providing access to remote printers, managing which users are using which printers when, managing how print jobs are queued, and recognizing when devices aren't available to the network
- Enabling and managing access to files on remote systems, and determining who can access what—and who can't
- Granting access to remote applications and resources, such as the Internet, and making those resources seem like local resources to the user (the network is ideally transparent to the user)
- Providing routing services, including support for major networking protocols, so that the operating system knows what data to send where
- Monitoring the system and security, so as to provide proper security against viruses, hackers, and data corruption.
- Providing basic network administration utilities (such as SNMP, or Simple Network Management Protocol), enabling an administrator to perform tasks involving managing network resources and users.

## Prerequisite:  Knowledge of C Programming language

## Course Content:

1. An Introduction to Java
 1.1 A Short History of Java
1.2 Features or buzzwords of Java
1.3 Comparison of Java and C++
 1.4 Java Environment
.5 Simple java program
1.6 Java Tools – jdb, javap, javadoc
 1.7 Java IDE – Eclipse/NetBeans (Note: Only for Lab Demonstration)
2. An Overview of Java [4]
2.1 Types of Comments
2.2 Data Types
 2.3 Final Variable

7..Introduction to Web Designing through HTML

**Detailed Course Contents: Available at**  www.gndu.ac.in

**What will be the teaching methods:**

- Lectures : six per week
- Student Lab: six per week
- Assignments : Operating System & Its types, Networking Operating Sytem& Its types .
- Powerpoint Presentations Topics:NOS,Window NT,Proxy server.

**Program Learning Outcomes:**

**(Knowledge and Understanding, Intellectual Skills, practical Skills, Transferable skills).**

**Learning Outcomes:**

**Z. Knowledge and Understanding):**

Students will

- Simple Programs and Development environment
- Datatypes
- Primtive Dataypes
- Variables,Opreator, Selection Statements, Iteration statements (Loops)
- JumpStatements,Array,Classes,ClassInheritanceAbstract,ClassAnd Methods

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** <br><br> 1.Class Tests (Unit wise) <br><br> 2.Student Seminars <br><br> 3. In House Exams | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **Last Week of September** |
| **End of Semester Exam** | **40%** | **Last week of November onwards** |

- **Teaching Outline:**

| Unit | Teaching Dates |
|---|---|

| I | 11Jan to 31Jan |
| --- | --- |
| II | 1<sup>st</sup> Feb to 25<sup>th</sup> Feb |
| III | 26<sup>th</sup> Feb to 10<sup>th</sup> march |
| IV | 11 March to 25March |
| Revision | Till end of session |

- **Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

E-Book

Programming with Java , A primer ,Forth edition , By E. Balagurusamy

References:

1. "Java–The Complete Reference", Hurbert Schildt, Tata MacGraw Hill.
2. "Introduction to Java Programming", Y. Daniel Mliang, Pearsons Publications. 3. "Beginning Web Programming with HTML, XHTML, and CSS", Jon Duckett, John Wiley & Sons, 06 Aug. 2004. 4. "HTML & XHTML: The Complete Reference", Thomas A. Powell, McGraw-Hill.

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**CURRICULUM PLANNING AND IMPLEMENTATION**

**Course Name: WEB TECHNOLOGY**

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**Programme : BSC IT**
**Semester: IV**
**Name of the Teacher: ___NEETI PAL_____**
**Availability Timings: 9.00 AM to 3.30 PM**
**E-mail: neeticomputerlkc@gmail.com**

**<u>Objectives of the Course:</u>**

- Understand the principles of creating an effective web page, including an in-depth consideration of information architecture.
- Become familiar with graphic design principles that relate to web design and learn how to implement these theories into practice.
- Develop skills in analyzing the usability of a web site.
- Understand how to plan and conduct user research related to web usability.
- Learn the language of the web: HTML and CSS.
- Learn techniques of responsive web design, including media queries.
- Be able to embed social media content into web pages.

**<u>Course Content:</u>**
The course provides an introduction to web essentials, CSS, basics of client and server side programming, knowledge of simple ASP pages, Database connectivity, JDBC, Introduction to PHP basics ,PHP file handling, cookies, AJAX and advanced web technologies and tools.

**<u>Detailed Course Contents:</u>**

UNIT–I Web Essentials, Markup languages, CSS Basics of Client side programming, Java script language, java script objects, host objects, Browsers and DOM

UNIT–II Basics of Server side programming, Java servlets ASP/JSP, Basics of ASP/JSP objects, simple ASP and JSP pages Representing Web data, Data base connectivity, JDBC

UNIT–III Introduction to PHP, basics, PHP File handling, file upload, cookies, error handling, PHP MySQL introduction Middleware technologies, Ecommerce architecture and technologies, Ajax, Advanced web technologies and tools

Case Studies: PHP and MySQL case studies

. References:

1. Jeffery C Jackson, "Web Technology- A Computer Science perspective", Pearson Education, 2007.

2. Chris Bates, "Web Programming- Building Internet Applications", Wiley India, 2006.

3. Achyut S Godbole and Atul Kahate, "Web technologies", Tata McGraw Hill.

## What will be the teaching methods:

- Lectures : six per week
- Student Seminars: two per week
- Assignments: The students will apply the various methods which learned in the class in the development of web page.
- PowerPoint Presentations
- Participatory and Experiential Learning
- MCQ's
- Discussions on previous question papers and prepare students to attempt the final exam.

## Program Learning Outcomes:
## (Knowledge and Understanding, Intellectual Skills, practical Skills, Transferable skills).

## Learning Outcomes:
Upon completion, graduates with a IT degree in Web Design & Development will be able to:

- Employ fundamental computer theory to basic programming techniques.
- Use fundamental skills to maintain web server services required to host a website.
- Select and apply mark-up languages for processing, identifying, and presenting of information in web pages.
- Use scripting languages and web services to transfer data and add interactive components to web pages.

- Create and manipulate web media objects using editing software.
- Incorporate aesthetics and formal concepts of layout and organization to design websites that effectively communicate using visual elements.
- Conceptualize and plan an internet-based business that applies appropriate business models and web technologies.
- Combine multiple web technologies to create advanced web components.
- Design websites using appropriate security principles, focusing specifically on the vulnerabilities inherent in common web implementations.
- Incorporate best practices in navigation, usability and written content to design websites that give users easy access to the information they seek.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)**<br><br>1.Class Tests (Unit wise)<br><br>2.Student Seminars<br><br>3. In House Exams | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **Last Week of March** |
| **End of Semester Exam** | **40%** | **Last week of April onwards** |

**Teaching Outline:**

| Unit | Teaching Dates |
|---|---|
| I | 11 Jan to 14 Feb |
| II | 15 Feb to 24 March |
| III | 25 March to 24 April |
| Revision | Till 31 April |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## Text Book(s):

1. Jeffery C Jackson, "Web Technology- A Computer Science perspective", Pearson Education, 2007.

2. Chris Bates, "Web Programming- Building Internet Applications", Wiley India, 2006.

3. Achyut S Godbole and Atul Kahate, "Web technologies", Tata McGraw Hill.

## *References:*

- Robert W. Sebesta,Programming the world wide web, 4th Edition, Pearson.
- C.Xavier Web technology & Design New Age International Publisher.
- Steven Holzner HTML Black Book Dremtech
- Mike Mcgrath,"PHP&MYSQL in easy steps",Tata McGraw Hill,2012

### E- resources :

- http://www.dreamincode.net
- http://www.w3processing.com
- http://www.sourcecodeworlds.com
- http://www.ds4beginners.wordpress.com
- http://www.tutorialspoint.com

## *Sample Format for*

## CURRICULUM PLANNING AND IMPLEMENTATION

**Course Name:** Network Management
Networking Operating System/Client–Server Application

**Programme:BSC IT**

**Semester: VI**
**Name of the Teacher: ____SAVITA____**
**Availability Timings: 9.00 AM to 3.30 PM**
**E-mail:** savitacomputerlkc@gmail.com

**Objectives of the Course:**
1. Understand different types of networks, various topologies and application of networks.
2. Understand types of addresses, data communication.
3. Understand the concept of networking models, protocols, functionality of each layer.
 4. Learn basic networking hardware and tools

**Course Content:**
The course provides an introduction to the conceptBasic Concept of History & Evaluation of Operating System, Various View of Operating System,
Basic Concepts of Networking.It explores the properties Introduction components of various networking O.S( Windows 95Windows NT/Novel Netware)
Its use Basics of Client Server model and its applications, Designing a Client Server model by Creating Proxy Server, Database server and Networking O.S. Server.
**Detailed Course Contents: Available at** www.gndu.ac.in

**What will be the teaching methods:**
  - Lectures : six per week
  - Assignments : Operating System & Its types, Networking Operating Sytem& Its types .
  - Powerpoint Presentations Topics :HTMl,Cyper Crime, front page 2003,Internet uses.

**(Knowledge and Understanding, Intellectual Skills, practical Skills, Transferable skills).**
**Learning Outcomes:**

**A. Practical Skills**
Students will learn to:
  • Designing of homogenous and heterogenous lab.
  • Creating Windows 95/NT/Novell Netware Server.
  • How to share information One PC or clients to other clients or PC
  •  Creating of Proxy Server.
  • Creating of Database Server

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)**<br><br>1.Class Tests (Unit wise)<br><br>2.Student Seminars<br><br>3. In Assignment Remarks | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **Last Week of March** |
| **End of Semester Exam** | **40%** | **Last week of April onwards** |

## Teaching Outline:

| Unit | Teaching Dates |
|---|---|
| I | 11Jan to 31Jan |
| II | 1$^{st}$ Feb to 25$^{th}$ Feb |
| III | 26$^{th}$ Feb to 10$^{th}$ march |
| IV | 11 March to 25March |
| Revision | Till end of session |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## Text-Boos:

AP Publication

## References:-

- 1. MCSA/MCSE; Exam 70–291, Implementing, Managing and Maintaining a Windows Server 2003
- 2. Network Infrastructure by Shinder Deborah Littlejohn, Shroff Publishers, 7th Reprint, 2005
- . 3. Networking: The Complete Reference by Craig Zacker, Tata McGraw–Hill, Seventh Reprint, 2004. 4. Unix Concepts and Applications, Sumitabha Das, Third Edition, Tata McGraw Hill, First Reprint, 2003.
- 5. Unix and Shell Programming: A Text Book, Behrouz A. Forouzen, Second Reprint, PWS Publishers, 2005.

- 6. Linux: A Practical Approach, B.Mohamad Ibrahim, Second Reprint, Laxmi Publications, 2006. 7. Linux Security, Hontanon Ramon.J., BPB Publications, 2001. 8. The Internet: Douglas E. Comer, 3rd Edition, Prentice Hall, 2003.

## INSTRUCTION PLAN (January 13, 2020 to April ,2020)

| | | | |
|---|---|---|---|
| **Class** | : | **PGDCA-II Sem** | |
| **Subject** | : | **Programming in C** | |
| **Paper** | : | **II** | |
| **Teacher's Name** | : | **Prof. Sonu Gupta** | |

| S.No | Topic | Week | Mode |
|---|---|---|---|
| **1.** | Fundamentals of C: Introduction of C, Data Types, Saturday: Revision | $2^{nd}$ week | Chalk & Board |
| **2.** | Operators, their precedence, expressions and their evaluation. Input/ Output Functions: Formatted I/O, Character I/O & String I/O Functions. Saturday: Revision | $3^{rd}$ week | Chalk & Board |
| **3.** | Control Structures: Taking decisions using if, if-else, switch constructs and Conditional Operator, | $4^{th}$-$6^{th}$ week | Chalk & Board |
| **4.** | Description of break and continue Statements. Performing loops using for, while, do-while Constructs | $7^{th}$ week-$9^{th}$ week | Chalk & Board |
| **5.** | Functions: Library Functions vs User-Defined Functions, Declaring (Prototyping) and defining User-Defined functions, ways of passing parameters to functions | $10^{th}$ week | Chalk & Board |
| **6.** | Recursive functions, Storage Classes. | $10^{th}$ week | Chalk & Board |
| **7.** | Arrays & String: What are Arrays?, Declaring arrays, initializing arrays, processing of arrays, | $11^{th}$ week | Chalk & Board |
| **8.** | Arrays passing arrays arguments to functions. | $11^{th}$ week | Chalk & Board |
| **9.** | What are Strings? How strings are handled in C? String functions, arrays of string | $12^{th}$ week | Chalk & Board |
| **10.** | Pointers: What is a pointer variable? Declaring pointers, accessing values via pointers, pointer arithmetic, pointer to strings, passing arguments using pointers. | $12^{th}$ -$13^{th}$ week | Chalk & Board |
| **11.** | Structure and Unions. Defining a structure type, declaring variables of structure type, initializing structures. Accessing Structure Elements, | $13^{th}$ week | Chalk & Board |
| **12.** | Use of assignment Statement for structures, array of structures, nested structures, Unions; Declaring a Union, Accessing elements of a type union | $13^{th}$ week | Chalk & Board |
| **13.** | Managing Data Files: Processing a file | $14^{th}$ week | Chalk & Board |
| **14.** | Standard Input/Output, System Level I/O, File updating | $14^{th}$ week | Chalk & |

| | | | Board |
|---|---|---|---|
| **15.** | Revision of Whole Syllabus | Till Exams | |

| Sr. No | Academic Activity | Date | Mode of Delivery* | Students Role** |
|---|---|---|---|---|
| 1. | Doubt Clearing | Every Friday / Saturday | Chalk & Board | Discussion |
| 2. | Presentations | | Presentation | Active Participation |
| 3. | Class Test | | ---- | Test |
| 4. | Program Practice | Every Week after completion of Topic | ---- | ----- |
| 5. | Previous Year Question Paper revision | After half syllabus | ---- | Group Discussion |

### MY RESOURCE BANK:

| S.NO | Text Books | Author | Publisher |
|---|---|---|---|
| 1 | Let us C | Yashwant Kanetkar | BPB Publications |
| 2 | Application Programming in C | R.S.Salaria | Khanna Book Publishing Co. (P) Ltd., Delhi |
| 3 | E- Notes and PPT | | |

Class            :         **PGDCA-II Semester**

Teacher's Name   :         **Prof. Sonu Gupta**

**PAPER–IV: (Option-ii): Practical based on e-COMMERCE / BUSINESS**

| S.No | Topic | Week | Mode |
|------|-------|------|------|
| **1.** | Give different types of e-commerce | 2$^{nd}$ week | Practical Training |
| **2.** | What are different Modes of payment | 3$^{rd}$ week | Practical Training |
| **3.** | Hardware and software requirement for E-Commerce | 4$^{th}$ week- | Practical Training |
| **4.** | Component of EDI | 4$^{th}$ week | Practical Training |
| **5.** | Implementation issues of EDI | 5$^{th}$ week | Practical Training |
| **6.** | How security is implemented in Ecommerce | 6$^{th}$ week | Practical Training |
| **7.** | Steps to open online business | 7$^{th}$ week | Practical Training |
| **8.** | Change e commerce or EDI using BPR | 8$^{th}$ week | Practical Training |
| **9.** | E- commerce in bank and reservation , Laws For E Commerce In India | 9$^{th}$ week | Practical Training |

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# CURRICULUM PLANNING AND IMPLEMENTATION

</div>

**Course Name:  PAPER–III (Practical lab): INTRODUCTION TO SCRIPTING LANGUAGES WEB DESIGNING AND USES OF INTERNET**

**Programme:PGDCA**
**Semester: II**
**Name of the Teacher: Jaspreet kaur khera**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  jasskheracomputerlkc@gmail.com**

## Objectives of the Course&&Course Content:

This course aims to an understanding of the introduction To  **HTML**
Structure of HTML, Tags, Character Entities, Hyperlinks, Frames, Tables, Lists, Forms, Limitations of HTML.
**Front Page 2000**
Features, Creating a Web Site using Wizard, One / Two / Three Column Body, Front Page Window, Various Toolbars of Front Page, Adding Clip Art, Thumbnails, resampling an Image,
Beveling & Cropping an Image, Creating Bookmarks, Adding an E-mail Hyperlink, Tables, Marquee, Counter, banner, Hover Buttons, Creating a Web Page Using a Template, Themes, Forms.

**Detailed Course Contents: Available at www.gndu.ac.in**
**The Teaching methods used:**
- Lectures : six per week

- Assignments : The students will be asked to practice HTML TAGS, FRONTPAGE
**(Knowledge and Understanding)**
**Transferable skills).Learning Outcomes:Knowledge and Understanding:**
- Students will know what HTML and TAGS
- Students will learn about the Adding Clip Art, Thumbnails, resampling an Image,
- Beveling & Cropping an Image, Creating Bookmarks, Adding an E-mail Hyperlink,
- Students will learn about how to CREATE HYPERLINKS, FRAMES

## Transferable Skills :

Students will be able to
- learn to think more creatively as well as comparatively.

| Modes of Assessment | Minimum  Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (Unit wise) 2.Student Seminars 3. In House Exams | | |
| | 40% | **After Each Unit** |
| | | **Every week** |
| | 40% | **Last Week of October** |
| **End of Semester Exam** | 40% | **Third week of November onwards** |

**Teaching Outline:**

| Unit | Teaching Dates |
|------|----------------|
| I | 16 January to 24 january |
| II | 27 january to 7 feb |
| III | 8 feb to 14 feb |
| IV | 17 feb to 16 march |
| Revision | Till 30 march |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams

**TextBook(s) and References:**

1. Internet Applications and Web Designing by A.P. Publishers.
2. HTML, DHTML, Java Script, Perl, CGI by BPB Publications.
3. Learning to Use Internet by BPB Publications.

# CURRICULUM PLANNING AND IMPLEMENTATION

**Course Name:  PAPER–III (Practical lab): INTRODUCTION TO SCRIPTING LANGUAGES WEB DESIGNING AND USES OF INTERNET**

**Programme:PGDCA**
**Semester: II**
**Name of the Teacher: Jaspreet kaur khera**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  jasskheracomputerlkc@gmail.com**

## Objectives of the Course&&Course Content:

This course aims to an understanding of the introduction To  **HTML**
Structure of HTML, Tags, Character Entities, Hyperlinks, Frames, Tables, Lists, Forms, Limitations of HTML.
**Front Page 2000**
Features, Creating a Web Site using Wizard, One / Two / Three Column Body, Front Page Window, Various Toolbars of Front Page, Adding Clip Art, Thumbnails, resampling an Image,
Beveling & Cropping an Image, Creating Bookmarks, Adding an E-mail Hyperlink, Tables, Marquee, Counter, banner, Hover Buttons, Creating a Web Page Using a Template, Themes, Forms.

**Detailed Course Contents: Available at www.gndu.ac.in**
**The Teaching methods used:**

- Lectures : six per week

- Assignments : The students will be asked to practice HTML TAGS, FRONTPAGE
**(Knowledge and Understanding)**
**Transferable skills).Learning Outcomes:Knowledge and Understanding:**

- Students will know what HTML and TAGS
- Students will learn about the Adding Clip Art, Thumbnails, resampling an Image,
- Beveling & Cropping an Image, Creating Bookmarks, Adding an E-mail Hyperlink,
- Students will learn about how to CREATE HYPERLINKS, FRAMES

## Transferable Skills :

Students will be able to
- learn to think more creatively as well as comparatively.

| Modes of Assessment | Minimum  Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (Unit wise) 2.Student Seminars 3. In House Exams | | |
| | 40% | After Each Unit |
| | | Every week |
| | 40% | Last Week of October |
| **End of Semester Exam** | 40% | Third week of November onwards |

**Teaching Outline:**

| Unit | Teaching Dates |
|------|----------------|
| I | 16 January to 24 january |
| II | 27 january to 7 feb |
| III | 8 feb to 14 feb |
| IV | 17 feb to 16 march |
| Revision | Till 30 march |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams

## TextBook(s) and References:

1. Internet Applications and Web Designing by A.P. Publishers.
2. HTML, DHTML, Java Script, Perl, CGI by BPB Publications.
3. Learning to Use Internet by BPB Publications.

<h1 align="center">CURRICULUM PLANNING AND IMPLEMENTATION</h1>
<h2 align="center">Subject Name: E-commerce</h2>

**Programme : PGDCA**
**Semester: II**
**Name of the Teacher: Anupriya Sharma**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail: anucomputerlkc@gmail.com**

**Objectives:**

- The primary goal is to prepare students for practical use of internet for online transctions like use of e-banking
- To get good knowledge of various modes of online payment using various apps.
- Also you can learn various security mechanisms.

**Course Content**

- This course includes basic knowledge of e-commerce and its types.
- The course also includes all basic means security issues,legal issues of e-commerece and challenges of e-commerce etc.

**Weekly 6 Lectures.**

**Planning and Implementation of the curriculum**

| Content/Topic Cover | Planned Date | Mode of Delivery |
|---|---|---|
| Its definition, aims, processes, tools and results | Jan 15,2020 | Lecture using Black Board, Chalk and notes. |
| EDI, VANs and Internet as Promoters. Types of E-Commerce | Jan 20,2020 | Lecture using Black Board, Chalk |
| Steps to Start E-Commerce. H/W & S/W Requirements, Steps involved in opening your own online business. | Jan 28, 2020 | Lecture using Black Board, Chalk |
| EDI EDI vs Traditional Systems, EDI enabled procurement process, components of EDI system, EDI implementation issues. | Feb 4, 2020 | Lecture using white board, marker by drawing diagram on working of EDI |
| Concerns for E-Commerce Growth: Basic challenges to E-Commerce. technological, Legal and regulators heads, Internet bandwidth & Technological issues. | Feb10 , 2020 | Lecture using white board, marker |
| NII : Technical issues Standards & | Feb 25, 2020 | Lecture using |

| | | |
|---|---|---|
| services GIL. Issues that confront us in relation to securing electronic transactions. Implementation of digital signatures. Authentication,Mechanisms.Electronic cash, its elements, legal issues, risks, paper document versus Electronic document | | white board, marker and giving some e-notes |
| Laws for E-Commerce legal issues for internet commerce | March 5, 2020 | Lecture using white board, marker |
| Re-Engineering for Changer: Business process re-engineering BPR, methodology, Planning Methods for change to EC/EDI. | March 8, 2020 | Lecture using white board, marker |
| Case Studies: To demonstrate usefulness of E-Commerce in various business areas Banks, Reservations, E-Governance, Supply-chain, management, manufacturing, retailing and online publishing | March 28, 2020 | Lecture using white board, marker |
| E-Commerce in India EDI service providers in India, EDI projects in the government regulatory agencies. The Internet in India, laws for E-Commerce in India. | April 8, 2020 | Lecture using white board, marker |
| | | |

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: Programming in C (lab)

**Programme : PGDCA**
**Semester: II**
**Name of the Teacher: Jaskiran Kaur**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:** jaskirancomputerlkc@gmail.com

## Course Content:

| S.No | Topic | Week |
|------|-------|------|
| **1.** | Fundamentals of C: Introduction of C, Data Types, | 15$^{th}$ Jan, 19 to 18$^{th}$ Jan,19 |
| **2.** | Operators, their precedence, expressions and their evaluation. Input/ Output Functions: Formatted I/O, Character I/O & String I/O Functions. | 21$^{st}$ Jan,19 to 25$^{th}$ Jan ,19 |
| **3.** | Control Structures: Taking decisions using if, if-else, switch constructs and Conditional Operator, | 28$^{th}$ Jan,19 to 1$^{st}$ Feb ,19 |
| **4.** | Description of break and continue Statements. Performing loops using for, while, do-while Constructs | 4$^{th}$ Feb,19 to 8$^{th}$ Feb,19 |
| **5.** | Functions: Library Functions vs User-Defined Functions, Declaring (Prototyping) and defining User-Defined functions, ways of passing parameters to functions | 11$^{th}$ Feb,19 to 20$^{th}$ Feb,19 |
| **6.** | Recursive functions, Storage Classes. | 21$^{st}$ Feb,19 to 5$^{th}$ March,19 |
| **7.** | Arrays & String: What are Arrays?, Declaring arrays, initializing arrays, processing of arrays, | 6$^{th}$ March,19 to 8$^{th}$ March 19 |
| **8.** | Arrays passing arrays arguments to functions. | 11$^{th}$ March,19 |
| **9.** | What are Strings? How strings are handled in C? String functions, arrays of string | 12-13$^{th}$ March,19 |
| **10.** | Pointers: What is a pointer variable? Declaring pointers, accessing values via pointers, pointer arithmetic, pointer to strings, passing arguments using pointers. | 14$^{th}$ March,19 to 18th March,19 |
| **11.** | Structure and Unions. Defining a structure type, declaring variables of structure type, initializing structures. Accessing Structure Elements, | 19$^{th}$ March,19 to 23$^{rd}$ March,19 |
| **12.** | Use of assignment Statement for structures, array of structures, nested structures, Unions; Declaring a Union, Accessing elements of a type union | 26$^{th}$ -28$^{th}$ March,19 |
| **13.** | Managing Data Files: Processing a file | 1$^{st}$ April, 19 |
| **14.** | Standard Input/Output, System Level I/O, File updating | 2-3 April, 19 |
| **15.** | Revision of Whole Syllabus | Till Exams |

## Teaching methods:

- Lectures : 3 lecture per week

- Assignments : The students will be asked to prepare a practical file based on task done in class
- Powerpoint Presentations for syntax clarifications

## Teaching Outline:

| Sr. No | Academic Activity | Date | Mode of Delivery* | Students Role** |
|---|---|---|---|---|
| 1. | Doubt Clearing | Every Friday / Saturday | Chalk & Board | Discussion |
| 2. | Presentations | | Presentation | Active Participation |
| 3. | Class Test | | ---- | Test |
| 4. | Program Practice | Every day after completion of Topic | ---- | ----- |

## Attendance Policy
Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## *References:*

| 1 | Let us C | Yashwant Kanetkar | BPB Publications |
| 2 | Application Programming in C | R.S.Salaria | Khanna Book Publishing Co. (P) Ltd., Delhi |
| 3 | E- Notes and PPT | | |

# INSTRUCTION PLAN (January 11, 2019 to April 10<sup>th</sup> ,2019)

**Class** : **B.Sc (Computer Science)/B.A (Economics)-VI Semester**

**Subject** : **Information Technology**

**Teacher's Name** : **Prof. Sonu Gupta**

| S.No | Topic | Week | Mode |
|------|-------|------|------|
| **1.** | Communication media: Twisted pair, Coaxial, Fibre optics, Wireless(Line of Sight & Satellite),Network Advantages | 15$^{th}$ Jan, 19 to 25$^{th}$ Jan,19 | Chalk & Board |
| **2.** | Types & Topologies, Communication using Network protocol/Network, Interface card(NP/NIC), Transmission & Communication protocol/protocol(TCP/IP), Modems | 29$^{th}$ Jan,19 to 4$^{th}$ Feb,19 | Chalk & Board |
| **3.** | Presentation | 6$^{th}$ Feb,19 | PPT |
| **4.** | Types of Operating systems: Multiuser, Multitasking & Multiprogramming and their examples. | 7$^{th}$ Feb,19- 12$^{th}$ Feb,19 | Chalk & Board |
| **5.** | **Information Systems:** Introduction to IT & its components, What is Information systems, Computer based information systems | 13$^{th}$ Feb,19 to 19$^{th}$ Feb,19 | Chalk & Board |
| **6.** | Management Information System, Decision Support System, Expert System, Functional Information System, | 20$^{th}$ Feb,19 to 22$^{nd}$ Feb,19 | Chalk & Board |
| **7.** | Open Information System, Transaction Processing System, System | 26$^{th}$ Feb,19 to 27$^{th}$ March,19 | Chalk & Board |
| **8.** | Development Process & System development Tools. | 28$^{th}$ March,19 | Chalk & Board |
| **9.** | Internet basics, Its uses and Applications. | 1$^{st}$ March,19 | Chalk & Board |
| **10.** | Introduction to components of various Networking O.S., Case Study of Network Operating System Windows NT | 5$^{th}$ - 6$^{th}$ March,19 | Chalk & Board |
| **11.** | **Fundamental of Client Server:** Basics of Client Server model and its applications. | 7$^{th}$ – 8$^{th}$ March,19 | Chalk & Board |
| **12.** | Designing a Client Server model by Creating Database Server and networking O.S. Server. | 11$^{th}$ -15$^{th}$ March,19 | Chalk & Board |
| **13.** | **Careers in Computers:** Role of Programmers, Program analysis, System Analyst, System Administrators, System Managers, | 18$^{th}$ March,19- 22$^{nd}$ March,19 | Chalk & Board |
| **14.** | System Integrators, DTP Manager & Administrators, MIS Director. | 25$^{th}$ -26$^{th}$ March,19 | Chalk & Board |
| **15.** | Revision of Whole Syllabus | Till Exams | |

| Sr. No | Academic Activity | Date | Mode of Delivery* | Students Role** |
|---|---|---|---|---|
| 1. | Doubt Clearing | Every Friday / Saturday | Chalk & Board | Discussion |
| 2. | Presentations | | Presentation | Active Participation |
| 3. | Class Test | | ---- | Oral Test |
| 4. | Previous Year Question Paper revision | After half syllabus | ---- | *Group Discussion* |

**MY RESOURCE BANK:**

| S.NO | Text Books | Author | Publisher |
|---|---|---|---|
| 1 | Introduction to Computers | Peter Norton, | Macmillan/McGraw Hill |
| 2 | Computer Technology, Applications & Social Implications | Hussain & Hussain | PHI. |
| 3 | Living with the Computers, | Patric, G.Mckeown | HBT Publishers, USA. |
| 4 | E-Notes and PPT | | |

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: PGDCA

### Even Semester

**Programme : Paper-I Network Concepts ad Management (Practical)**
**Semester: II**
**Name of the Teacher: Jaskaranjit Kaur**
**Availability Timings: 9.00 AM to 3.30 PM**
**E-mail:** *jaskaranjitcomputerlkc@gmail.com*

## Objectives of the Course:

1. Study the basic taxonomy and terminology of the computer networking and enumerate the layers of OSI model and TCP/IP model.
2. Gain core knowledge of Network layer routing protocols and IP addressing.

## Course Content:( Practical Assignment)

Q1: What is a Network? What are the various components of a Network? What are the various Hardware and Software requirements for a Network?

Q2: What do you mean by Network Topologies? Explain various types of topologies in detail?

Q3: Explain various layers of OSI model.

Q4: Explain TCP/IP model in detail. Also write the difference between TCP/IP and OSI?

Q5: Explain ISDN in detail.

Q6: Explain the cell structure and various layers of ATM in detail.

Q5:`Explain various classes of IP Addressing?

Q6: What do you mean by Network Security? Why it is important? Explain following types of security Techniques:

    i) Data Compression Techniques

    ii)Cryptography

Q7: Write various features of Windows NT? Also write various steps to install Windows NT?

Q8: Write the steps in Windows NT to:

    i) Create a new user account

    ii) Rename a user account

    iii) Delete a user account

    iv) Disable a user account

Q9: Explain Primary Domain Controller & Backup Domain Controller?

Q10: Explain UNIX Architecture in detail?

Q11: Explain with syntax the following commands:

    cat,ls,ln,chmod,mail,write,who,call,pwd,date,ps,mkdir,cd,dir,rm,clear

Q12: Differentiate between Windows NT Server, UNIX and LINUX?

## **Detailed Course Contents: Available at** www.gndu.ac.in
## **What will be the teaching methods:**
- Lectures : Three per week
- Assignments : Students will be asked to make practical handwritten file of these questions with proper diagrams
- Discussion of syllabus topics with Examples

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Practical file (Unit wise) 2.Student viva 3. Discussion and doubt sessions | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **Last Week of April** |
| **End of Semester Exam** | **40%** | **Last Week of April** |

## **Attendance Policy**
Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

**References:**
1. Computer Networks: A Top-Down Approach Behrouz A. Forouzan, Firouz Mosharraf
2. Robert Reinstein, et.al: Windows NT Trouble Shooting and Configuration, Techmedia
3. Computer Networks by Andrew S. Tanenbaum

.

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: PGDCA

### Even Semester

**Programme : Paper-I Network Concepts ad Management (Practical)**
**Semester: II**
**Name of the Teacher: Jaskaranjit Kaur**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:** *jaskaranjitcomputerlkc@gmail.com*

## Objectives of the Course:

1. Study   the   basic taxonomy and terminology   of   the computer networking and enumerate the layers of OSI model and TCP/IP model.
2. Gain core knowledge of Network layer routing protocols and IP addressing.

## Course Content:( Practical Assignment)

Q1: What is a Network? What are the various components of a Network? What are the various Hardware and Software requirements for a Network?

Q2: What do you mean by Network Topologies? Explain various types of topologies in detail?

Q3: Explain various layers of OSI model.

Q4: Explain TCP/IP model in detail. Also write the difference between TCP/IP and OSI?

Q5: Explain ISDN in detail.

Q6: Explain the cell structure and various layers of ATM in detail.

Q5:`Explain various classes of IP Addressing?

Q6: What do you mean by Network Security? Why it is important? Explain following types of security Techniques:

   i) Data Compression Techniques

   ii)Cryptography

Q7: Write various features of Windows NT? Also write various steps to install Windows NT?

Q8: Write the steps in Windows NT to:

   i) Create a new user account

   ii) Rename a user account

   iii) Delete a user account

   iv) Disable a user account

Q9: Explain Primary Domain Controller & Backup Domain Controller?

Q10: Explain UNIX Architecture in detail?

Q11: Explain with syntax the following commands:

   cat,ls,ln,chmod,mail,write,who,call,pwd,date,ps,mkdir,cd,dir,rm,clear

Q12: Differentiate between Windows NT Server, UNIX and LINUX?

## **Detailed Course Contents: Available at** www.gndu.ac.in
## **What will be the teaching methods:**
- Lectures : Three per week
- Assignments : Students will be asked to make practical handwritten file of these questions with proper diagrams
- Discussion of syllabus topics with Examples

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Practical file (Unit wise) 2.Student viva 3. Discussion and doubt sessions | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **Last Week of April** |
| **End of Semester Exam** | **40%** | **Last Week of April** |

## **Attendance Policy**
Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

**References:**
1. Computer Networks: A Top-Down Approach Behrouz A. Forouzan, Firouz Mosharraf
2. Robert Reinstein, et.al: Windows NT Trouble Shooting and Configuration, Techmedia
3. Computer Networks by Andrew S. Tanenbaum

.

# CURRICULUM PLANNING AND IMPLEMENTATION

## CLASS- PGDWD (POST GRADUATE DIPLOMA IN WEB DESIGNING)

## Paper – I NETWORK CONCEPTS AND MANAGEMENT

**Name of the Teacher: Prof. SHILPI DHIR**
**Lecture Timings: 9 a.m -3p.m**
**E-mail:  shilpicomputerlkc@gmail.com**

**Objectives of the Course:**
This course aims at acquainting students with the knowledge of understanding and implementing various networking concepts.

**Detailed Course Contents: Available at**  www.gndu.ac.in

**What will be the teaching methods:**
- Lectures : six per week
- Student Seminars: two per week
- Powerpoint Presentations
- Weekly class tests.

## Teaching Outline:

| Unit | Teaching Dates(jan 2020- april 2020) |
|------|--------------------------------------|
| Section -A | 14 January to 23$^{st}$ January |
| Section-B | 31 January to 12 February |
| Section-C | 16 february  to 8 march |
| Section-D | 11- march to 20 march |
| Revision | Till 15 april |
| Class tests | 16 april to 26 april |

-

## Lesson plan (Datewise):
**SECTION–A( 14$^{th}$ Jan to 23$^{th}$ Jan)**

**14$^{th}$jan**- network hardware and software requirements
**15$^{th}$ Jan**-topologies, OSI model
**18$^{th}$ Jan**-TCP/IP model.
**21$^{rst}$ Jan**-ISDN
**22$^{ND}$ Jan**- ATM
**23rd Jan**- ROUTERS, HUB, SWITCHES

**SECTION–B(31 jan- 12$^{th}$feb)**
**31$^{st}$jan**-data compression techniques
**4$^{th}$feb**-cryptography
**7$^{th}$feb**-IP addressing schemes

**11<sup>th</sup>feb**-NT Administration

**SECTION–C ( 16<sup>th</sup>feb to 8<sup>th</sup> march)**
**18<sup>th</sup>feb**-unix features
**21<sup>st</sup>feb**-unix architecture
**25<sup>th</sup>feb**–pipes and filters
**28<sup>th</sup>feb**-command: CAT, IS, IN, CHMOD,MAIL
**4<sup>th</sup> march**-  WRITE,WHO, CAL, PWD
**6<sup>th</sup> march**- DATE, PS, MKDIR,RM, CLEAR, CD

**SECTION–D( 11<sup>th</sup> march- 20<sup>th</sup> march)**
**11<sup>th</sup> march**-linux , features
**13<sup>th</sup> march**-comparative study of NT server
**18<sup>th</sup> march**-UNIX and LINUX

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

**Books Recommended:**
1.  Tannanbaum: computer network, Prentice Hall,1992
2.  Robert reinstein, techmedia

## E- resources

1.https://www.jstor.org/stable/10.1086/651006

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: PGDWD-II

## Even Semester

**Programme : Paper-II PROGRAMMING IN JAVA**

**Semester: II**

**Name of the Teacher: Jaskaranjit Kaur**

**Availability Timings: 9.00 AM to 3.30 PM**

**E-mail:** *jaskaranjitcomputerlkc@gmail.com*

## Objectives of the Course:

1. Understand fundamentals of programming such as variables, conditional and iterative execution, methods, etc.
2. Understand fundamentals of object-oriented programming in Java, including defining classes, invoking methods, using class libraries, etc.
3. Be aware of the important topics and principles of software development.
4. Have the ability to write a computer program to solve specified problems.
5. Be able to use the Java SDK environment to create, debug and run simple Java programs.

## Course Content:

### Section–A

Evolution of Java, Importance of JAVA to Internet, Features of JAVA, Bytecode, Object Oriented Approach.

Data Types, Variables and Arrays Data types, Declaration of Variable, Type Conversion and Casting, One Dimensional and Multidimensional arrays

### Section–B

Operators and Control Structures

Arithmetic, Bitwise, Relational, Boolean, Assignment Operators, Operator precedence, Selection Statements, Iteration Statements, Jump statements.

Classes

Class Fundamentals, Declaring objects, introducing methods, constructors, this keyword, Overloading constructors, Recursion, Nested and Inner classes.

### Section–C

Inheritance

Basics, Creating Multilevel hierarchy, Method Overriding, Abstract Classes.

Exception Handling

Fundamentals, Exception Types, uncaught exceptions, try and catch.

### Section–D

Packages and Interface

Packages, Access Protection, Importing Packages, Interfaces, Defining, Implementing, Applying

Interfaces, Extending Interfaces

## Detailed Course Contents: Available at  www.gndu.ac.in

## What will be the teaching methods:

- Lectures : six per week
- Assignments : The students will be asked to read the textbook and given notes and make detailed assignments of important topics.
- Discussion of syllabus topics with Examples

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (Unit wise) 2.Student Seminars 3. Discussion and doubt sessions | | |
| | 40% | After Each Unit |
| | | Every week |
| | 40% | Last Week of April |
| **End of Semester Exam** | 40% | Last Week of April |

## Teaching Outline:

| Section | Teaching Dates |
|---|---|
| I | 13 Jan to 5 Feb |
| II | 6 Feb to 1 Mar |
| III | 1 Mar to 22 Mar |
| IV | 23 Mar to 15 Apr |
| Revision | Till 30 Apr |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## Text Book(s):

1. Patrick Naughton & Herbert Schildt: The Complete Reference Java 2, Tata McGraw Hill Edition
2. Balagurusamy: Programming in JAVA

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: PGDWD-II

### Even Semester

**Programme : Paper-II PROGRAMMING IN JAVA**

**Semester: II**

**Name of the Teacher: Jaskaranjit Kaur**

**Availability Timings: 9.00 AM to 3.00 PM**

**E-mail:** *jaskaranjitcomputerlkc@gmail.com*

## Objectives of the Course:

1. Understand fundamentals of programming such as variables, conditional and iterative execution, methods, etc.
2. Understand fundamentals of object-oriented programming in Java, including defining classes, invoking methods, using class libraries, etc.
3. Be aware of the important topics and principles of software development.
4. Have the ability to write a computer program to solve specified problems.
5. Be able to use the Java SDK environment to create, debug and run simple Java programs.

## Course Content:

### Section–A

Evolution of Java, Importance of JAVA to Internet, Features of JAVA, Bytecode, Object Oriented Approach.

Data Types, Variables and Arrays Data types, Declaration of Variable, Type Conversion and Casting, One Dimensional and Multidimensional arrays

### Section–B

Operators and Control Structures

Arithmetic, Bitwise, Relational, Boolean, Assignment Operators, Operator precedence, Selection Statements, Iteration Statements, Jump statements.

Classes

Class Fundamentals, Declaring objects, introducing methods, constructors, this keyword, Overloading constructors, Recursion, Nested and Inner classes.

### Section–C

Inheritance

Basics, Creating Multilevel hierarchy, Method Overriding, Abstract Classes.

Exception Handling

Fundamentals, Exception Types, uncaught exceptions, try and catch.

### Section–D

Packages and Interface

Packages, Access Protection, Importing Packages, Interfaces, Defining, Implementing, Applying

Interfaces, Extending Interfaces

## Detailed Course Contents: Available at  www.gndu.ac.in

## What will be the teaching methods:

- Lectures : six per week
- Assignments : The students will be asked to read the textbook and given notes and make detailed assignments of important topics.
- Discussion of syllabus topics with Examples

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (Unit wise) 2.Student Seminars 3. Discussion and doubt sessions | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **Last Week of April** |
| **End of Semester Exam** | **40%** | **Last Week of April** |

## Teaching Outline:

| Section | Teaching Dates |
|---|---|
| I | 1$^{st}$ February to 12$^{th}$ February |
| II | 13$^{th}$ February to 28$^{th}$ February |
| III | 1$^{st}$ March to 18th March |
| IV | 19$^{th}$ March to 10$^{th}$ April |
| Revision | Till 15$^{th}$ April |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## Text Book(s):

3. Patrick Naughton & Herbert Schildt: The Complete Reference Java 2, Tata McGraw Hill Edition
4. Balagurusamy: Programming in JAVA

# Curriculum planning and implementation

**Paper Name: PC Computing**

**Class: PGDWD**

**Semester: IV**

**Name of the teacher: Jaspreet Kaur**

**Availability timings: 9.00AM To 3.00 PM**

**E- Mail: jaspreetcomputerlkc@gmail.com**

## Objectives of Course:

1. Identify the ways of utilizing Excel as a tool
2. Students will be able to differentiate between spreadsheet and workbook.
3. Students will be able to create, record data, save, rename excel sheet
4. Able to copy and paste formulas and functions in Excel sheet.
5. Able to understand the worksheets, workbooks, cells, columns, rows, and Excel cursors standard and formatting toolbars and menus of MS Excel.
6. Uses of Spreadsheet.
7. Identify the terminology and functions common to most database management systems and identify the qualities of valuable information.
8. Identify the elements of good database design.
9. Create and use tables and queries.
10. Create simple reports and forms in MS Access.

## COURSE CONTENTS

The course provides an introduction of the basic skills needed to operate and navigate MS Word, MS Excel, MS PowerPoint and MS access. MS Word explores various parts, toolbars of word window, creating, formatting, saving, apply header and footer to documents, table creation and mail merging the documents. MS Excel explore introduction to Worksheet/Spreads, the excel Window, creation of worksheet, adding, deleting, moving the text in worksheet, linking different sheets, sorting the data, querying the data, filtering the data, different functions on different data in excel, creation of graphs, editing it and formatting of spread sheet.MS PowerPoint explores

Introduction to MS Power point, Power point elements, Starting a new slide, saving presentation, printing slides, color schemes, power point menu adding text, adding title, moving text area, adding pictures, Formatting & enhancing text formatting, Choosing transitions. Creating graphs, displaying slide show, adding multimedia .Slide transitions & different views of presentations. Microsoft Access is to be able to plan, design, create, manipulate and query databases. Students will be capable of using Microsoft Access to generate reports, understand terminology and produce input user forms.

## Learning Outcomes

- Will able to use tool bars of MS Word
- Will able to create, save and formatting the documents and use basic features of Word
- use a range of font formatting techniques& format paragraphs
- create and modify tabs and tables
- insert and work with clip art and pictures
- use the Mail Merge Wizard to perform mail merges
- print a document
- find the information you need in Help
- Create high quality document designs and layouts.
- Identify the different components of the Excel worksheet.
- Differentiate between an Excel workbook & worksheet.
- Enter text and formulas in to an Excel spreadsheet
- Create a spreadsheet to tabulate and record numeric values ·
- Change the appearance of an Excel spreadsheet ·Use the print function to create a printable copy of data stored on an Excel spreadsheet.
- Set up the chart function of Excel to represent numeric data in multiple formats.
- Differentiate between formulas and functions in Excel.
- Access and manipulate data using the database functions of Excel.
- Create simple & complex macros in Excel.
- Identify the names and functions of the PowerPoint interface.
- Create, edit, save, and print & Format presentations.
- Add a graphic to a presentation.
- Create and manipulate simple slide shows with outlines and notes.
- Create slide presentations that include text, graphics, animation, and transitions.
- Use design layouts and templates for presentations.
- Examine database concepts.
- Build a new database with related tables.
- Manage the data in a table.
- Query a database using different methods.
- Design a form.
- Generate a report.
- Import and export data.

**Detailed Corse Content Available at: www.gndu.ac.in**

**What will be the Teaching Methods?**

- Lectures: Six per Week.
- Group Discussion : two per week
- Assignment
- PowerPoint Presentation
- Question Bank
- Objective Type Questions

| Modes of Assessment | Minimum Score Required Qualify for the next Exam/Class | |
|---|---|---|
| Continuous Internal Evaluation | | After Each Unit |
| 1. Class test | 40% | Every Week |
| 2. Students Seminars | | Last Week of March |
| 3. Assignment | 40% | |
| End of Semester Exam | 40% | Last Week of April |

**Teaching Outline:**

| Unit | Teaching Dates |
|---|---|
| I | 15 Jan to 5 Feb |
| II | 6 Feb to 20 Feb |
| III | 21 Feb to 10 March |
| IV | 11 March to 5 April |
| Revision | Till end of session |

**Attendance Policy:**

Lecture Attendance is Mandatory. Students are expected to maintain 75% attendance of total lectures delivered, failing which they will be detained from appearing in university examinations.

**Textbook/References:**

- Window Based Computer Courses by Gurvinder Singh & Rachpal Singh, Kalyani Publishers.
- PC Computing By R.K .Taxali

# CURRICULUM PLANNING AND IMPLEMENTATION

**Course Name:** Paper–I Database Management Systems

**Programme: DCA**
**Semester: II**
**Name of the Teacher: Jaspreet kaur khera**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  jasskheracomputerlkc@gmail.com**

## Objectives of the Course:
This course aims to an understanding the Introduction to Database Management System, Components of DBMS, E.R. Diagrams, Data Models, as well as learning ORACLE 10g:
SQI. *PLUS, PL/SQL.

## Course Content:
The course aims to an understanding  Introduction to Database Management System, Components of DBMS, E.R. Diagrams, Data Models, Hierarchical Model, Network Model and Relational Model.Concept of Database Security, Protection, Integrity, Recovery, Concurrency. Idea of DistributedDatabases, Knowledge Base/Expert Systems,Introduction to Oracle **10g** SQL–DOL, DML, DCLJoin methods & Sub query, Union, Intersection, Minus, Tree Walking Built in Functions, Views, Security amongst users, Sequences, Indexing Object

Oriented Features of Oracle **10g**
**PL/SQL**
Introduction to PL/SQL,Cursors– Implicit & Explicit,Procedures, Functions & Packages
Database Triggers

## Detailed Course Contents: Available at www.gndu.ac.in

## The Teaching methods used:
- Lectures : six per week
- Student Seminars: two per week
- Assignments : The students will be asked to read the textbook in advance and write articles on given topics
- PowerPoint Presentations

## Program Learning Outcomes:
## (Knowledge and Understanding)
## Transferable skills).
## Learning Outcomes:

## Knowledge and Understanding:
- Students will learn about using DBMS(Meaning and need of a database, Advantages, Limitations of databases, Applications of Database, Meaning and need of DBMS, Database Components: Tables, Rows, Columns, Attributes, Queries, Record, Primary Key, Foreign Key, Relationship between tables.).
- Students will know E.R. Diagrams, Data Models, Hierarchical Model, Network Model and Relational Model.
- Students will learn about the Concept of Database Security, Protection, Integrity, Recovery, Concurrency. Idea of Distributed
- Students will learn about the Databases, Knowledge Base/Expert Systems,

- Students will learn about the SQL PLUS
- Students will learn about what is ORACLE 10G
- Students will learn about the basics of PL/SQL

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (Unit wise) 2.Student Seminars 3. In House Exams | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **Last Week of October** |
| **End of Semester Exam** | **40%** | **Third week of November onwards** |

## Teaching Outline:

| Unit | Teaching Dates |
|---|---|
| I | 17 January to 24 january |
| II | 28 january to 7 feb |
| III | 10 feb to 10 march |
| IV | 10 march to 23 march |
| Revision | Till End of april ends |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams

**Text Book(s):**

**Recommended Book :**
C.J. Date : Data Base Management Systems
DBMS AND SQL PLUS by unimax publications

# CURRICULUM PLANNING AND IMPLEMENTATION

## Course Name: 2D Animation & Storyboard pro

**Programme : DCA**
**Semester: II**
**Name of the Teacher: Onkar**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  onkar.computer.lkc@gmail.com**

## Objectives of the Course:

This course aims at teaching students about the basic techniques of animation, which are Fundamentals of Animation. The main purpose of the principles was to produce an illusion of characters adhering to the basic laws of physics, but they also dealt with more abstract issues, such as emotional timing and character appeal.

## Course Content:

These principles form the basis of all animation work and are relevant for a number of different fields. The most obvious use is for animating a character but these rules are also an invaluable guide in other areas. Discuss about the layers & framing. Once student understand these 12 principles of animation then they will be able to take your motion work to the next level.

**Detailed Course Contents: Available at:**  www.gndu.ac.in

## What will be the teaching methods:

- Lectures : six per week
- Student Seminars: 1 per week
- Assignments: The students will be asked to study the notes provided & class test will be conducted.
- PowerPoint Presentations

## Program Learning Outcomes:

## Learning Outcomes:

### AA.    Knowledge and Understanding):

Students will

- Learn about the process of Drawing.

- Learn about Fundamental of Storyboarding & Camera angles.
- Learn about the different effects used in storyboarding.
- Learn about working in different production.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| Continuous Internal Evaluation(CIE)<br><br>1.Class Tests (section wise)<br><br>2.Student Seminars<br><br>3. In House Exams | | |
| | 40% | After Each Section |
| | | Every week |
| | 40% | Last Week of September |
| End of Semester Exam | 40% | Last week of November onwards |

**Teaching Outline:**

| Section | Teaching Dates |
|---|---|
| I | 15 January to 15 February |
| II | 17 February to 6 March |
| III | 7 March to 28 March |
| IV | 30 March to 20 April |
| Revision | Till Exams |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

**References**
1. Ramesh Bangia (Khanna Book Publishing Co. Pvt. Ltd).
2. Learning Flash MX 2004

## CURRICULUM PLANNING AND IMPLEMENTATION

### Course Name: B Design Multimedia (BDM)

**Programme : Lab-I: Lab Based on Corel Draw**

**Semester: II**
**Name of the Teacher: Vinay Shweta**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail:  Vinayshwetacomputerlkc@gmail.com**

**Objectives of the Course:**
This course aims to acquire practical proficiency for work with 2D graphics. Students learn how to use all program features for implementation of their own ideas and projects and for poster presentation of various semester projects.

**Course Content:**
The course provides an introduction about
- In first section – Importing & Opening files, drawing lines of all shapes & sizes, creating & manipulating text.
- Second Section – Selecting and Transformig Objects, object ordering, layers & the object manager.
- Third Section- Enveloping & perspective, extruding, transparency & power-clip.
- Fourth section- Colour- Management, Exporting & Page setup, Printing.
  **Detailed Course Contents: Available at  www.gndu.ac.in**

**What will be the teaching methods:**
- Lectures : Six days per week of practical practices
- Assignments : Assignments after completion of topic
- Practical practice

**Program Learning Outcomes:**
Practical Written file Assignments:
- Creating Advertisement design.
- Creating Poster design.
- Creating Folders design.
- Creating Pamphlet design.
- Creating Press Ad design.
- Creating Calender design.

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal** | | |

| Evaluation(CIE) | 40% | After Each Unit |
| --- | --- | --- |
| 1.Class Tests (Unit wise) | | Every week |
| 2.Assignments | 40% | After Each Unit |
| 3. Discussion | | |
| End of Semester Exam | 40% | Last week of April |

**Teaching Outline:**

| Unit/Section | Teaching Dates |
| --- | --- |
| I | 11th Jan. to 27th Jan. |
| II | 28th Jan. to 16th Feb. |
| III | 17th Feb. to 15th March |
| IV | 16th March to 4th April |
| Practical Practice | Till Exams |

**Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

## CURRICULUM PLANNING AND IMPLEMENTATION

### Course Name: Lab Based on Flash

**Programme : DCA**
**Semester: II**
**Name of the Teacher: Bharat Sharma**
**Availability Timings: 9.00 AM to 3.00 PM**
**E-mail: bharat.computerlkc@gmail.com**

**Objectives of the Course:**
This course aims at teaching students about the basic techniques of animation, which are Fundamentals of Animation. The main purpose of the principles was to produce an illusion of characters adhering to the basic laws of physics, but they also dealt with more abstract issues, such as emotional timing and character appeal.
**Course Content:**

It Introduction, Managing windows & panels, Toolbox, Document window-Drawing in software. Working with colors. Basic Interactivity to Flash Movies, Actions, text & 2D Animation, embedding video Event Handlers

**Detailed Course Contents: Available at:** www.gndu.ac.in

**What will be the teaching methods:**
- Lectures : six per week
- Student Seminars: 1 per week
- Assignments: The students will be asked to study the notes provided & class test will be conducted.
- PowerPoint Presentations

**Program Learning Outcomes:**

**Learning Outcomes:**

**BB. Knowledge and Understanding):**

Students will
- Learn about the Software.
- Learn about the Different types of Tween.
- Learn about the 2D Animation, embedding video.
- Learn about Basic Interactivity to Flash Movies.
- Learn about Actions & Event Handlers

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** 1.Class Tests (section wise) 2.Student Seminars 3. In House Exams | | |
| | **40%** | **After Each Section** |
| | | **Every week** |
| | **40%** | **Last Week of September** |
| **End of Semester Exam** | **40%** | **Last week of November onwards** |

**Teaching Outline:**

| Section | Teaching Dates |
|---------|----------------|
| I | 15 January to 18 February |
| II | 19 February to 4 March |
| III | 5 March to 28 March |
| IV | 30 March to 20 April |
| Revision | Till Exams |

## Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

# Course Outcomes

**Class**           :   Diploma in Computer Animation-II Sem

**Subject**         :   Multimedia Technologies

**Paper**           :   Paper-I

**Teacher's Name**  :   Prof. Ravinder Kaur

**Objective:**
- To identify a range of concepts, techniques and tools for creating and editing the interactive multimedia applications.
- To identify the current and future issues related to multimedia technology.
- To identify both theoretical and practical aspects in designing multimedia systems surrounding the emergence of multimedia technologies using contemporary hardware and software technologies.

**Outcomes:**
- Upon successful completion of this course, you should be able to
- Identify the essential features of graphics/image data types, file formats, and colour models in images and video.
- Explain the technical details of multimedia data representations.
- Perform a comparative analysis of the major methods and algorithms for multimedia data compression.
- Explain the technical details of popular multimedia compression standards.

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| S.No | Topic | Week | Mode |
|------|-------|------|------|
| | Introduction: Multimedia Definition, Design Processes, Morphing, Media Control interfaces. Types of text, Font, insertion, compression, File formats. | First 3 weeks | Chalk & Board |
| | Types of images, color modes & color models, Basic steps for image processing, principle and working of | $4^{th}$ week-$5^{th}$ week | Chalk & Board |

| | | | |
|---|---|---|---|
| | scanner and digital camera. | | |
| | Audio and Video technology: Fundamental characteristics of sound, Rasters canning principles, sensors for TV cameras, | 6th week | Chalk & Board |
| | color fundamentals, additive and subtractive color mixing, Liquid crystal display (LCD), Plasma Display Panel (PDP), Video for Window, | 7th week-8th week | Chalk & Board |
| | Compression and coding: What is compression? Need for compression, Types of compression basic compression techniques-run length, | 9th week-10th week | Chalk & Board |
| | Huffman's coding, JPEG, zip coding, Overview of Image and Video compression techniques. | 11th week | Chalk & Board |
| | Multimedia presentation and authoring: Overview, multimedia authoring metaphor, multimedia production, presentation and automatic authoring, | 12th week- 13th week | Chalk & Board |
| | Design paradigms and user interface, overview of tools like adobe premiere. | 14th week-15th week | Chalk & Board |
| | Revision of Whole Syllabus | Till Exam | |

References:

- Prabhat K. Andleigh and Kiran Thakrar, "Multimedia Systems Design", PHI publication
- John F. Koegal Buford, "Multimedia systems", Pearson Education.
- Ze-Nian Li and MS Drew, "Fundamentals of multimedia", PHI EEE edition.
- A Banerji& A M Gosh, "Multimedia Technologies", Tata McGraw Hill

| Sr. No | Academic Activity | Date | Mode of Delivery* | Students Role** |
|---|---|---|---|---|
| 1. | Doubt Clearing | Daily | Chalk & Board | Discussion |
| 2. | Presentations | | Presentation | Active Participation |
| 3. | Class Test | | ---- | Oral and Written Test |

# CURRICULUM PLANNING AND IMPLEMENTATION

## CLASS- DCM(DIPLOMA IN COMPUTER MAINTENANCE)

## Paper – I NETWORK OPERATING SYSTEM

**Name of the Teacher: Prof. Sandeep kaurBains**
**Lecture Timings: 9:00 am to 3:00 pm**
**E-mail:  sandeepbahia96@gmail.com**

**Objectives of the Course:**
This course aims at acquainting students with the knowledge of understanding and implementing various networking concepts.

**Detailed Course Contents: Available at** www.gndu.ac.in

**What will be the teaching methods:**
- Lectures : six per week
- Student Seminars: two per week
- Powerpoint Presentations
- Weekly class tests.

## Objectives of the Course&& Course Content

introduction to various network operating systems9Windows XP/9X/2000/NT)
INTRODUCTION TO 2003 SERVER, Window 2003 features, Hardware requirements. planning the network, Windows 2003 network security model.special purpose servers, licensing,planning storage strategies options, working with disk administrator and backup.
Network protocols,window 2003 service architecture and security architecture.planning and managing group user accounts, file services, distributed file system.
introduction to window NT, features, hardware requirements, architecture, file services.user accounts,installation of windows NT.Security architecture,planning and managing groups
domains and workgroups.
concept of distributed networks,E-mail,various internet technologies

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)**<br><br>1.Class Tests (Unit wise)<br><br>2.Student Seminars | | |
| | **40%** | **After Each Unit** |
| | | **Every week** |
| | **40%** | **Last Week of October** |

| | | |
|---|---|---|
| 3. In House Exams | | |
| **End of Semester Exam** | **40%** | **Third week of November onwards** |

## Teaching Outline:

| Unit | Teaching Dates(jan 2020- april 2020) |
|---|---|
| **Section -A** | **14 January to 21st January** |
| **Section-B** | **31 January to 12 February** |
| **Section-C** | **16 february to 8 march** |
| **Section-D** | **11- march to 20 march** |
| **Revision** | **Till 15 april** |
| **Class tests** | **16 april to 26 april** |

### Attendance Policy

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

### Books Recommended:

1. Windows NT4 The complete reference by sybex publisher –BPB 1999
2. Inside windows server 2003: William boswell publishers: pearson 2003

### E- resources

1.https://www.jstor.org/stable/10.1086/651006

Outcomes

- Introduce the concept of network operating systems and various protocols.
- Introduction to computer networks and the Internet
- Introduce about the various file systems and how to create and manage groups.

# CURRICULUM PLANNING AND IMPLEMENTATION

**Course Name: DCM** (SEMESTER – II) **(PAPER- 3** : LAB–II: Based on Network Operating Systems)

**Programme: DCM**

**Semester:** (SEMESTER – II)

**Name of the Teacher: RamandeepKaur**

**Availability Timings: 9.00 AM to 3.00 PM**

**E-mail:  ramancomputerlkc@gmail.com**

## Objectives of the Course:

A network operating system is an operating system designed for the sole purpose of supporting workstations, database sharing, application sharing and file and printer access sharing among multiple computers in a network.

## Course Content:

Windows 2003 server, Window 2003 features, Hardware requirements, planning the network, Windows 2003 network security model, special purpose servers, licensing. working with disk administrator and backup. Networking and Network protocols Configuration of Windows 2003. remote access services, Internet & Intranet. Printing and supporting network clients, performance tuning . Windows NT, features, Hardware requirements. Integrate the PC' s into Local Area Network & re-install OS & various shipboard applications.

## Detailed Course Contents: Available at: www.gndu.ac.in
## What will be the teaching methods:

- Lectures : six per week
- Assignments : In the class room Assignments will be given to the students in the form of print handouts and hand written form .
- Participatory and Experiential Learning
- Quiz

## Program Learning Outcomes:

## (Knowledge and Understanding, Intellectual Skills, practical Skills, Transferable skills).
## Learning Outcomes:
### CC.        Knowledge and Understanding):

- Understand basic concept & structure of Computer Hardware & Networking Components

- knowledge of computer hardware and networking, enabling them to identify and rectify the onboard computer hardware, software and network
- With the help of this course the participant will be able to understand the hardware specifications that are required to run operating system and various shipboard application programs.
- Also, upgrading of existing hardware/software as and when required. The main aspect of this program is to eliminate cost for the shore technician boarding the vessel to trouble shoot, install/configure the application program and network related problems and there by charging exorbitant fees to ship owners/managers.

## DD. Intellectual( Cognitive/ Analytical) Skills:

- Understand basic concept & structure of Computer Hardware & Networking Components.
- Integrate the PC's into Local Area Network & re-install OS & various shipboard applications.
- Manage data backup & restore operations.

## C. Practical Skills

Students will learn to:

- What's Inside your Computer? How does it inter-relate? Computer Peripherals.
- Installations of OS, Service packs, Drivers & Configuring PC for network.
- Installation of Shipboard Software Applications.
- Trouble shooting of Windows OS & Other Shipboard applications.
- How to configure Computer Network? Networking Hardware & Cabling requirements.
- Sharing & Mapping networked drives.
- Scheduling & Managing of routine tasks related to data backup & Anti-virus applications.
- Industrial Hardware & Networking Components
- Electrical Standards – RS232, RS422, RS485, Ethernet CAT5e or CAT6, RJ45 & Fibre Optic - Trouble shooting techniques.

## D. Transferable Skills :

Students will be able to

- learn to think more creatively as well as comparatively, and

| Modes of Assessment | Minimum Score Required (to Qualify for the Next Exam/Class) | Schedule |
|---|---|---|
| **Continuous Internal Evaluation(CIE)** <br><br> 1.Class Tests (Unit wise) | 35% | After Each Unit |
| | | Every week |

| | | |
|---|---|---|
| 2.Student Seminars<br><br>3. In House Exams | **35%** | **Last Week of Feb** |
| **End of Semester Exam** | **35%** | **Last week of March onwards** |

## **Teaching Outline:**

| Unit | Teaching Dates |
|---|---|
| **I** | **13 Jan to 31 Jan** |
| **II** | **1 Feb to 6 March** |
| **III** | **9 March to 31 March** |
| **IV** | **1 April to 15 April** |
| **Revision** | **Till 30 April** |

## **Attendance Policy**

Lecture attendance is mandatory. Students are expected to maintain 75% attendance of the total lectures delivered, failing which they will be detained from appearing in university exams.

### *Text & Reference Books:*

1. Windows NT 4 The Complete Reference by Sybex Publisher:– BPB 1999.
2. Inside Windows Server 2003: William Boswell Publisher: Pearson 2003.

## **E- resources**

- https://www.slideshare.net/waseem.akhtar/chapter01-introduction-to-windows-server-2003
- https://web.cs.wpi.edu/~emmanuel/courses/cs513/S10/pdf_slides/intro1.pdf
- https://doc.lagout.org/operating%20system%20/Windows/Windows%20Server%20 2003%20For%20Dummies.pdf
- https://www.geeksforgeeks.org/network-devices-hub-repeater-bridge-switch-router-gateways/
- https://ftms.edu.my/v2/wp-content/uploads/2019/02/CN1047-Chapter-1.pdf
- https://www.minitool.com/lib/windows-nt.html