

**DEPARTMENT OF BCA**  
**U.G. PROGRAMME**

**SYLLABUS**

**2016 – 2019 BATCH**

**V SEMESTER**



**A. D. M. COLLEGE FOR WOMEN**  
**NAGAPATTINAM**

**SEMESTER – V  
CORE COURSE - X  
PROGRAMMING IN PHP**

**Internal Marks : 25**  
**External Marks : 75**  
**Total Marks : 100**

**Instruction Hrs : 6**  
**Credit : 5**  
**Exam Hrs : 3**

**Objective :**

To understand the Concepts of PHP and Ajax.

**UNIT I**

Introduction to PHP : Basic Development Concepts – Creating your First PHP Script – Using Variables and Operators: Storing Data in Variables – Understanding PHP Data types – Using Constants – Manipulating Variables with Operators. Controlling Program Flow: Writing Simple Conditional Statements – Writing more complex Conditional Statements – Repeating Action with Loops Array: Sorting data in Arrays – Processing Array with Loops and Iterators – Using Array with Forms.

**UNIT II**

Using Function and Class: Creating User – Defined Functions – Creating Class – Using Advanced OOP Concepts – Working with Files and Directories: Reading Files – Writing Files – Processing Directories – Performing other File and Director Operation.

**UNIT III**

Working with Databases and SQL: Introducing Database and SQL –Creating and Populating a Database – Using PHP's MySQLi Extension – Adding or Modifying Data – Handling Error – Using PHP's SQLite Extension – Using PHP's PDO Extension – Building a Login Form. Working with Cookies, Session and Headers: Working with Cookies – Working with Sessions – Using HTTP Headers.

## **UNIT IV**

Working with XML: Introducing XML – Using PHP’s Simple XML Extension – Converting XML to SQL – Using PHP’s DOM Extension – Handling Errors: Handling Script Errors-Using Exception-Logging Errors– Debugging Errors – Securing PHP: Sanitizing Input and Output – Securing Data – Validating user Input.

## **UNIT V**

Technologies behind AJAX- Using CSS-Using DOM –Using Xml HTTP Request- Introducing order to AJAX- MVC pattern- View in AJAX- Controller in AJAX –Models in AJAX- Generating view from model.

## **TEXT BOOK**

1. PHP: A Beginner's Guide, Vikram Vaswani, McGraw Hill Education, 2009
2. Dave Crane and Eric Pascarello, “Ajax in Action” 2006

## **REFERENCE BOOKS**

The PHP Complete Reference, Steven Holzner, McGraw Hill Education, 2007

**SEMESTER - V**  
**CORE COURSE XI -**  
**OPERATING SYSTEMS**

**Internal Marks : 25**  
**External Marks: 75**  
**Total Marks : 100**

**Instruction Hrs : 6**  
**Credit : 5**  
**Exam Hrs : 3**

**Objective**

To present the fundamental aspects of various managements in an operating system.

**UNIT I**

INTRODUCTION: Meaning - Early Systems - Multiprogrammed Batch Systems - Real-Time Systems. COMPUTER SYSTEM STRUCTURES: Computer-System Operation - Storage Hierarchy - General System Architecture. OPERATING SYSTEM STRUCTURES: System Components - System Calls - Virtual Machines - System Generation.

**UNIT II**

PROCESS MANAGEMENT: Processes - Process Concept - Operation on Processes - Inter-Process Communication. CPU SCHEDULING: Basic Concepts - Scheduling Algorithms - Real Time Scheduling. PROCESS SYNCHRONIZATION: Background - Critical-Section Problem - Semaphores. DEADLOCKS: System Model - Methods for Handling Deadlocks – Deadlock Avoidance - Recovery from Deadlock.

**UNIT III**

MEMORY MANAGEMENT: Background - Swapping - Paging - Segmentation with Paging. VIRTUAL MEMORY: Demand Paging - Page Replacement - Allocation of Frames - Thrashing.

**UNIT IV**

FILE - SYSTEM INTERFACE: File Concept - Access Methods – Directory Structures File-System Implementation: File-system Structure – Allocation Methods - Directory Implementation - Efficiency and Performance - Recovery. MASS STORAGE STRUCTURE: Disk Structure - Disk Scheduling - Swap- Space Management - Stable-Storage Implementation.

## **UNIT V**

PROTECTION: Goals of Protection - Access Matrix - Capability Based Systems - Language-based Protection. SECURITY: The Security Problem - Authentication - Security Systems and Facilities - Encryption. WINDOWS XP: Design Principles, System Components, Environmental Subsystems, File Systems, Networking, Programmer Interface.

## **TEXT BOOK**

1. Abraham Silberschatz, Peter Baer Galvin "Operating System Concepts", 6th Ed., John Wiley & Sons Inc., New Delhi 2003.

## **BOOKS FOR REFERENCE**

1. Harvey M. Deitel, "An Introduction to Operating System", Addison Wesley, New York, 1999.
2. Andrew S. Tanenbaum, "Modern Operating Systems", Prentice Hall, New Delhi, 1997

**SEMESTER - V**  
**CORE COURSE XII -**  
**SOFTWARE ENGINEERING**

**Internal Marks : 25**  
**External Marks: 75**  
**Total Marks : 100**

**Instruction Hrs : 6**  
**Credit : 5**  
**Exam Hrs : 3**

**Objective:**

To provide knowledge of the various phases of Software Engineering Process

**UNIT I**

Introduction : Introduction to Software Engineering - Software Process - Software Process Models - Software Model - Requirements Engineering Principles : Requirements Engineering - Importance of Requirements - Types of Requirements - Steps involved in Requirements Engineering

**UNIT II**

Requirements Analysis Modeling : Analysis Modeling Approaches - Structured Analysis - Object Oriented Analysis - Design and Architectural Engineering : Design Process and Concepts - Basic Issues in Software Design - Characteristics of Good Design - Software Design and Software Engineering - Function Oriented System vs Object Oriented System - Modularity, Cohesion, Coupling, Layering - Real Time Software Design - Design Models - Design Documentation

**UNIT III**

Object Oriented Concepts : Fundamental Parts of Object Oriented Approach - Data Hiding and Class Hierarchy Creation - Relationships - Role of UML in OO Design - Design Patterns - Frameworks - Object Oriented Analysis - Object Oriented Design - User Interface Design : Concepts of User Interface - Elements of User Interface - Designing the User Interface - User Interface Evaluation - Golden Rules of User Interface Design - User Interface Models - Usability

**UNIT IV**

Software Coding - Introduction to Software Measurement and Metrics - Software Configuration - Project Management Introduction - Introduction to Software Testing - Software Maintenance

## **UNIT V**

Web Engineering : Introduction to Web - General Web Characteristics - Web Application Categories - Working of Web Application - Advantages and Drawbacks of Web Applications - Web Engineering - Emerging Trends in Software Engineering - Web 2.0 - Rapid Delivery - Open Source Software Development - Security Engineering - Service Oriented Software Engineering - Web Service - Software as a Service - Service Oriented Architecture - Cloud Computing - Aspect Oriented Software Development - Test Driven Development - Social Computing

## **TEXTBOOK**

Software Engineering, Chandramouli Subramanian, Saikat Dutt, Chandramouli Seetharaman, B.G. Geetha, Pearson Publications, 2015

## **REFERENCE BOOK**

Software Engineering, Jibitesh Mishra, Pearson E

## SEMESTER - V MAJOR BASED ELECTIVE I - COMPUTER GRAPHICS

**Internal Marks : 25**  
**External Marks: 75**  
**Total Marks : 100**

**Instruction Hrs : 6**  
**Credit : 6**  
**Exam Hrs : 3**

### **Objective:**

To understand the concepts on basic Graphical Techniques, Raster Graphics, Two Dimensional and Three Dimensional Graphics

### **UNIT I**

Overview of Computer Graphics System: Video Display Devices – Raster Scan Systems – Random – Scan Systems - Graphics Monitors and Workstations – Input Devices – Hardcopy Devices – Graphics Software.

### **UNIT II**

Output Primitives: Line Drawing Algorithms – Loading the Frame Buffer – Line Function – Circle – Generating Algorithms. Attributes of Output Primitives: Line Attributes – Curve Attributes – Color and Grayscale levels – Area fill Attributes – Character Attributes – Bundled Attributes – Inquiry Functions.

### **UNIT III**

2D Geometric Transformations: Basic Transformation – Matrix Representations – Composite Transformations – Window to View port Co-Ordinate Transformations. Clipping: Point Clipping – Line Clipping – Cohen-Sutherland Line Clipping – Liang Barsky Line Clipping – Polygon Clipping – Sutherland – Hodgman Polygon Clipping – Curve Clipping – Text Clipping.

### **UNIT IV**

Graphical User Interfaces and Interactive Input Methods: The User Dialogue – Input of Graphical Data – Input Functions – Interactive Picture Construction Techniques.

### **UNIT V**

Three Dimensional Concepts: 3D-Display Methods – Three Dimensional Graphics Packages -3D Geometric and Modeling Transformations: Translation – Scaling – Rotation – Other Transformations.



**TEXT BOOK**

Donald Hearn M. Pauline Baker, Computer Graphics C Version, Second Edition, Pearson Education, 2014.

**REFERENCE BOOK**

Computer Graphics, Sunil Kumar Sharma, Manoj Singhal, Pearson Education, 2014

## SEMESTER - V

### SKILL BASED ELECTIVE II

#### COMPUTER GRAPHICS AND ANIMATION LAB

**Internal Marks : 40**

**Instruction Hrs : 2**

**External Marks: 60**

**Credit : 2**

**Total Marks : 100**

**Exam Hrs : 3**

#### **Objective :**

To Impart Practical Training in Computer Graphics and Animation related problems

#### **Photoshop :**

1. (i) Handling different file formats and interchanging them, changing the resolution, color, grayscales and size of the images  
(ii) Using brushes and creating multicolor real life images
2. Cropping, rotating, overlapping, superimposing, pasting photos on a page
3. Creation of a single image from selected portions of many
4. Developing a commercial brochure with background tints
5. Creating an image with multi-layers of images and texts.
6. Applying masks and filtering on images

#### **Flash :**

Develop an image(s) and do the following.

1. Basic Drawing and Painting
2. Working with Strokes and Fills
3. Creating Custom Colors, Gradients, and Line Styles Transforming and Grouping Objects
4. Creating and Managing Multiple Layers
5. Converting Text into Shapes
6. Animate using motion, shape, Tweening, and actions

**SEMESTER – V**  
**SKILL BASED ELECTIVE III -**  
**PROGRAMMING IN PHP LAB**

**Internal Marks : 40**  
**External Marks : 60**  
**Total Marks : 100**

**Instruction Hrs : 2**  
**Credit : 2**  
**Exam Hrs : 3**

**Objective :**

To Impart Practical Training in PHP Programming Language

1. Write a program to find the factorial of a number.
2. Write a program using Conditional Statements.
3. Write a program to find the maximum value in a given multi dimensional array.
4. Write a program to find the GCD of two numbers using user-defined functions.
5. Design a simple web page to generate multiplication table for a given number.
6. Design a web page that should compute one's age on a given date.
7. Write a program to download a file from the server.
8. Write a program to store the current date and time in a COOKIE and display the 'Last Visited' date and time on the web page.
9. Write a program to store page views count in SESSION, to increment the count on each refresh and to show the count on web page.
10. Write a program to draw the human face.
11. Write a program to design a simple calculator.
12. Design an authentication web page in PHP with MySQL to check username and password.

**V Semester  
PART – IV  
SOFT SKILL DEVELOPMENT**

Internal Marks : 25  
External Marks : 75  
Total Marks : 100

Instruction Hrs : 2  
Credit : 2  
Exam Hrs : 3

**Objective** : To impart knowledge Self development through inter personal relation, Communication and self presentation.

**UNIT I : Know Thyself / Understanding Self**

Introduction to Self Skills – Self discovery – Developing positive attitude -  
Improving perception – Forming values.

**6 Hrs.**

**UNIT II : Interpersonal Skills \ Working with Others**

Developing interpersonal relationship – Team building – group dynamics -  
Net working – improving work relationship.

**6 Hrs.**

**UNIT III : Communication Skills \ Working with Others**

Art of listening – Art of reading – Art of Speaking – Art of Writing –  
Art of Writing E – mails –E mail etiquette.

**6 Hrs.**

**UNIT IV : Corporate Skills \ Working with Others**

Developing body language – Practising etiquette and mannerism – Time  
Management – Stress Management.

**6 Hrs.**

**UNIT V : Selling Self\ Job Hunting**

Writing resume\cv – interview skills – discussed – Mock interview –  
Mock GD – Goal setting – Career planning.

**6 Hrs.**

**(Theory only)**

**Text Book**

Dr.K.Meena & Dr.V.Ayothi - A book on development of Soft Skills.

Dr.K.Alex - Soft Skills. S.Chand & Company Ltd. Ram Nagar, New Delhi -110055

**Books for Reference**

1. Developing the leader within you John C Maxwell
2. Good to Grent by jim Collins
3. The seven habit of highly effective people Stephen Covey
4. Emotional Intelligence Daniel Goleman
5. You can win shive Khera
6. Principal centred leadership Stephen