SYLLABUS

Bachelor of Computer Applications

6th SEMESTER

Mission of SCS&IT, DAVV

To produce world-class professionals who have excellent analytical skills, communication skills, team building spirit and ability to work in cross cultural environment.

To produce international quality IT professionals, who can independently design, develop and implement computer applications.

Professionals who dedicate themselves to mankind, who are environment conscious, follow social norms and ethics.

School of Computer Science & IT,
Devi Ahilya Vishwa Vidyalaya, Indore
www.scs.dauniv.ac.in

Course Name: **BCA 6th Semester**

Subject Code: **CS-2502**

Subject Name: **Fundamentals of Operating Systems**

Aim of the Subject

To develop general understanding of operating system and able to visualize the underlying working of operating system.

Learning Outcomes

The students are expected to learn following after completion of the course:

- Student will aware of different types of Operating System and their services.
- Analyze important process scheduling algorithms to achieve better performance of a computer system
- Categorize the operating system's memory management techniques.
- Understanding of file management and secondary memory management.
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Unit 1

Introduction: operating system concepts, role of OS in resource management, operationalview of a computer system. Evolution of operating systems, operating system services, different types of operating system.

Unit 2

Processor resource management: Explanation of processor as a resource, processor utilization, multi-processing and time-sharing, response times.

Process Management: Process concept, Operation on processes, Process States, Process state transitions, Process Control Block.

Unit 3

CPU Scheduling: process scheduling, scheduling criteria, scheduling algorithms, short-term, long-term schedulers and Medium term scheduler, Non pre-emptive scheduling policies like FCFS, SJF etc. Pre-emptive schedulingpolicies like Round robin, Priority etc., advantages and disadvantages of various scheduling algorithms, Context switching, Dispatcher.

Unit 4

Memory management: Motivation for memory management, Need of primary and secondary memory management. Fixed and variable partitions, Basic concepts of Paging and

Segmentation memory allocation policies, critique of various policies like first fit, best fit and worst fit, internal and external fragmentation.

Unit 5

Secondary memory management, file concepts, file attributes, file access methods, file allocation methods, disk structure, disk arm scheduling algorithms.

Text Book(s)

1. Operating Systems Concepts by Silbeschautz and Galvin.

2. Modern Operating System, Tanenbaum A.S., Prentice/Hall of India

Reference Material(s)

Course Name: **BCA 6th Semester**

Subject Code: **CS-3605**

Subject Name: **Web Technology and Programming**

Aim of the Subject

To develop an ability to design and implement static and dynamic website using scripting languages.

Learning Outcomes

The students are expected to learn following after completion of the course:

- Analyze a web page and identify its elements and a□ributes.
- Learn the language of the web: HTML, CSS, JavaScript, PHP, client server technology.
- Design well-structured, easily maintained, standards-compliant CSS code to present HTML layout.
- To design dynamic website by selecting HTML, CSS, and JavaScript code from public repositories of open-source and free scripts that enhances the experience of site visitors.
- Apply different types of validations for all major browsers.

Unit 1

HTML & Forms: Introduction To HTML, WWW, W3C, web publishing, Common HTML, Tags Physical & Logical, Some basic tags like changing background color of page, text color etc., Text formatting tags, Ordered &Unordered Lists Tags, Inserting image, Links: text, image links, image mapping , Tables , Frames, Form: Introduction with text box, text area, buttons, List box, radio, checkbox etc

Unit 2

Internet Basics1 Overview of Internet, history, web system architecture, Uniform Resource Locator, HTTP protocol basics, HTTP request & response, CSS:Introduction To Style sheet, types of style sheets-Inline, External, Embedded CSS, text formatting properties, CSS Border, margin properties, Positioning Use of classes in CSS, color properties, use of &

Unit 3

JavaScript:Introductionto script, types, Introduction of JavaScript, JavaScript identifiers, operators, control & Looping structure, Intro of Array, Array with methods, Math, String, Date Objects with methods User defined & Predefined functions, DOM objects.

Unit 4

PHP:History of PHP, Requirements for PHP, PHP Fundamentals, Calculations and Operators, Control Structures, Built-in PHP Functions, User-Defined Functions, Arrays and Objects, File handling functions, miscellaneous functions, Opening a File, Reading Text from a File, Writing Text to a File, Closing a File, Locking Files.

Unit 5

Handling Session and Cookies: Concept of session, Starting session, Modifying session variables, Concept of cookies, Handling of cookies, GET and POST methods, Working MySQL with PHP, database connectivity, usages of MySQL commands in PHP.

Text Book(s)

1.Schafer, Steven M.Web standards programmer's reference: HTML, CSS, JavaScript, Perl, Python, and PHP. John Wiley & Sons, 2007.

2.Batross, Ivan.Web Enabled Commercial Application Development Using HTML, DHTML, Javascript, Peril CGI. Bpb Publications, 2009.

Reference Material(s)

1.Sebesta, Robert W.Programming the world wide web. Pearson Addison Wesley, 2008.2.Glass, Michael K., et al.Beginning PHP, Apache, MySQL Web Development. John Wiley & Sons, 2004.3.Powell, Thomas A.HTML: the complete reference. McGraw-Hill Professional, 20

Course Name: **BCA 6th Semester**

Subject Code: **CS-3508**

Subject Name: **Introduction to Cloud Computing**

Aim of the Subject

To provide students with the fundamentals of Cloud Computing and various cloud services.

Learning Outcomes

The students are expected to learn following after completion of the course:

- Explore the fundamental of cloud computing.
- Compare the advantages and disadvantages of various cloud computing platforms.
- Explore Virtualbox, Gsuite, AWS and hadoop
- Understanding of Virtualization

Unit 1

Introduction to cloud computing, History, Importance of cloud computing in the current era, characteristics of cloud computing, what cloud computing really is and isn't, pros and cons of cloud computing, technologies in cloud computing.

Unit 2

Types of clouds, cloud infrastructure, cloud application architecture, working of cloud computing, trends in cloud computing, cloud service models, cloud deployment models, cloud computing and services pros and cons.

Unit 3

Cloud computing technology, cloud life cycle model, role of cloud modelling and architecture, cloud system architecture, virtualization, virtualization in cloud computing.

Unit 4

Data storage, data storage management in cloud computing, file system, cloud data stores, cloud storage characteristics. Introduction cloud security mechanism.

Unit 5

VirtualBox: Installation, features and characteristics, application of virtualbox, Google class room etc, case-study. Introduction to hadoop, AWS and Gsuite

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Text Book(s)

Mastering Cloud Computing: Foundations and Applications Programming by Christian Vecchiola, Rajkumar Buyya, and S. Thamarai Selvi

Reference Material(s)

PPT will be given to students

Cloud Computing: A practical approach for learning and implementation, 1st edition, Pearson, A. Srinivasan, J. Suresh.

Course Name: **BCA 6th Semester**

Subject Code: **IC-3929**

Subject Name: **Entrepreneurship**

Aim of the Subject

The Aim of this course is to inspire students and help them imbibe an entrepreneurial mind-set.

Learning Outcomes

The students are expected to learn following after completion of the course:

- Develop awareness about entrepreneurship and successful entrepreneurs.
- Develop an entrepreneurial mind-set by learning key skills such as design, personal selling, and
- communication.
- Understand the DNA of an entrepreneur and assess their strengths and weaknesses
- from an entrepreneurial perspective.

Unit 1

Unit I

Concepts of Entrepreneurship Development Evolution of the concept of Entrepreneur,

Entrepreneur Vs. Intrapreneur, Entrepreneur Vs. Entrepreneurship, Entrepreneur Vs. Manager,

Attributes and Characteristics of a successful Entrepreneur, Role of Entrepreneur in Indian

economy and developing economies with reference to Self-Employment Development,

Entrepreneurial Culture, Women Entrepreneurs.

Unit 2

Creating Entrepreneurial Venture, Business Planning Process, Environmental Analysis - Search and Scanning, Identifying problems and opportunities, Sources of Business Idea, idea generation - role of creativity & innovation and business research.

Unit 3

Technical, Financial, Marketing, Personnel and Management Feasibility, Estimating and

Financing funds requirement - Schemes offered by various commercial banks and financial

institutions, Venture Capital Funding.

Unit 4

Managerial roles and functions in a small business. Designing and redesigning, business processes, location, layout, operations planning & control.

Unit 5

Role of Central Government and State Government in promoting Entrepreneurship - Introduction to various incentives, subsidies and grants. Role of following agencies in the Entrepreneurship Development - District Industries Centres (DIC), Small Industries Service Institute (SISI),

Entrepreneurship Development Institute of India (EDII), National Institute of Entrepreneurship & Small Business Development (NIESBUD), National Entrepreneurship Development Board (NEDB), MSME.

Text Book(s)

R.V. Badi- .V Badi, Entrepreneurship: Vrinda publications

Reference Material(s)

Reference Material(s) :

1. Udyamita (in Hindi) by Dr. MMP. Akhouri and S.P Mishra, pub. By National Institute for Entrepreneurship and Small Business Development (NIESBUD), NSIC-PATC Campus, Okhla

2. Everyday Entrepreneurs - The harbingers of Prosperity