1.3.1 List of courses integrates cross cutting issues relevant to Gender, Environment and Sustainability, Human Values and Professional Ethics into the Curriculum.

Values	Program Name	Year	Course Code	Course Name	Course Objectives
Environment & Sustainability	All First Year BCA	2018-19	BCA_Env	Environmental Studies	To create awareness, acquire knowledge so that students manage their society properly inculcate skills for identifying problems associated with environment and develop ability to evaluate participate in environmental protection activities that is helpful to all living things.
Professional Ethics	BCA	2017-18	BCA 101	Foundation Course for managers	To study the fundamental Accounting concepts, terms, jargons and learn the process of recording of financial transactions in the books of Accounts.
					To develop the foundation for higher studies in the field of accounting.
			BCA 202	Professional Communication	To impart the basic communication skills among students.
			BCA 205	Practical on Professional Communication	To impart basic communication skills among students
			BCA 301	Mathematics and Statistics for Managers	To impart the required knowledge of Mathematics and statistics for managerial activities among students.

Values	Program Name	Year	Course Code	Course Name	Course Objectives
Professional Ethics	BCA	2017-18	BCA 401	Introduction to Information System Audit	To impart the knowledge and importance of Information System and Audit among Students for Quality Management.
			BCA 501	Entrepreneurship Development	To impart the knowledge of Entrepreneurship Development among students.
			BCA 502	Cyber Security	
			BCA 504	Software Engineering	To impart knowledge of software life cycle, taught security and ethical concern to students
					Get understanding of emerging tech.
			BCA 507	Field work on IT Project Assessment	To understand the issues in implemented IT project by assessing it using research methodology.
			BCA 606	Practical on Employability Skills	To practically train students in developing required employability skills.
		2019-20	BCA 607	Project Report & Viva	To train students to use application theory and practical
	Master of Management Studies	2017-18	1.1	Principles of Management	To acquaint the students with the basic Business Management concept & process.
			1.6	Lab I-Practical on Tally ERP & Web Designing	To acquaint students use of tally software and aware them technically concept of web designing .
			2.1	Communication Skills	To develop personality of student in the micro perspective.
					To provide employability skills for students.
					To impart knowledge of process of Interview Techniques& Group discussion among student.
					To teach needs and benefits of written communication to students.

Values	Program Name	Year	Course Code	Course Name	Course Objectives
Professional Ethics	Master of Management Studies	2017-18	3.2	Cyber Security and IT Act	To introduce the student with information security, security threats and control.
					To study and understand the basic concepts of cryptography, network security and cyber laws.
		2018-19	3.2	Cyber Security	To introduce the student with information security, security threats and control.
				and IT Act	To study and understand the basic concepts of cryptography, network security and cyber laws.
			3.1	CRM & Digital Marketing	To aware the students with the concepts of customer relationship management and digital marketing.
			1.1	Principal of Management	To acquaint the students with the basic Business Management concept & process.
		2021-22	1.2	Financial Accounting	To prepare students about important financial accounting concepts and understand usage of Tally ERP software
			2.1	Communication Skill	To taught communication cycle to student.
					To provide employability skills
					To taught the process of Interview Techniques& Group discussion.
			2.2	Management Information System	To aware students about Management Information System.
			AC(201)	Soft Skill	To make student well aware in soft skill.

Values	Program Name	Year	Course Code	Course Name	Course Objectives
Professional Ethics	Master of Management Studies	2022-23	3.1	CRM & Digital Marketing	To aware the students with the concepts of customer relationship management and digital marketing.
			3.2	Cyber Security and IT Act	Practice with an expertise in academics to design and implement security solutions.
					Develop cyber security strategies and policies.
					To aware students about IT ACT.
			AC-301	AC-301B - Cyber Security	To aware students about cyber security skills.
					Understand key terms and concepts in Cryptography, Governance and Compliance.
					Understand principles of web security and to guarantee a secure network by monitoring and analyzing the nature of attacks through cyber/computer forensics software/tools
	BCA	2022-23	BCA 101	Fundamentals of Accounting	To understand fundamental concepts of financial accounting, cost accounting.
					To learn maintenance and record financial transactions in books of accounts.
					To prepare final accounts of sole proprietary business.
			BCA 201	Professional Communication Skill	To develop his verbal and non verbal communication ability
					To communicate with people effectively and confidently.
					To draft effective business correspondence documents.
					To make and present well designed and informative presentations
		2022-23	BCA 301	Fundamental Mathematics and Statistics	Understanding of all terms related to mathematical logic.
					Ability to know the types of sets, method of representation, operations, and laws related to it.
					Ability to solve problems related to matrices.

Values	Program Name	Year	Course Code	Course Name	Course Objectives
Professional Ethics	BCA	2022-23	BCA 301	Fundamental Mathematics and Statistics	Understand the basic concepts of Statistics.
					Analyze statistical data using measures of central tendency.
					Performing mathematical and statistical functions using MS-Excel.
			BCA 401	Software Engineering	To design and develop a software in learned language.
					To prepare software requirement specification.
					Estimate the size and cost of software product.
					Get knowledge of different types of software testing
			BCA 501	Employability Skill	To teach students in developing required employability skills.
			BCA 605	Project	To learnt how to applying a broad range of knowledge to a real life problem.
					To prepare students technically strong in concern subject that use for development of project.
Human Values	MMS CM –II	2018-19	4.1	Human Resource Management	To teach students importance of Human Resource Management.
					To provide essential knowledge to students about function of HRM.
					To acquainted students about latest trends & practices of HRM
		2022-23	4.1	Human Resource Management	To teach students importance of Human Resource Management.
					To provide essential knowledge to students about function of HRM.
					To acquainted students about latest trends & practices of HRM

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Shahada, Dist. Nandurbar

NORTH MAHARASHTRA UNIVERSITY, JALGAON

'A' Grade NAAC Re-Accredited (3rd Cycle)

Faculty of Science and Technology
Syllabus

BACHELOR IN COMPUTER APPLICATION (BCA)

With effect from June- 2017-18

NORTH MAHARASHTRA UNIVERSITY, JALGAON
BACHELOR IN COMPUTER APPLICATION
STRUCTURE
(W.E.F. June 2017)

Course Name: Bachelor in Computer Application

Short Title of Degree: B C A

Faculty to which assigned: Science and Technology

Duration: 3 years full time

Pattern: Semester

Examination Pattern: 60 (External) + 40 (Internal)

No of paper per semester: 4 Theory + 3 Practical

Eligibility: Passed Higher Secondary Examination in Any Stream

OR

Diploma recognized by Board of Technical Education with minimum Duration of 3 years

Medium of Instruction: English

Objectives:

- BCA COURSE strives to create outstanding computer professionals with ethical and human values to reshape the nation's destiny. This programme aims to prepare young minds for the challenging opportunities in the IT industry, nourished and supported by experts in the fields.
- The BCA Course aims at inculcating essential skills as demanded by the global software industry through interactive learning process. This also includes team-building skills, audio- visual presentations and personality development programmes.
- The programme enhances analytical, managerial and communication skill besides inculcating the virtues of self-study. The Curriculum has been designed to cater to the ever changing demands of information technology along with necessary inputs from the Industry.
  The OBJECTIVE of the course is to develop skilled manpower in the various areas of software industry and Information Technology.

COURSE STRUCTURE
Bachelor Of Computer Application (BCA)
w.e.f. –Academic Year 2017-18

First Year BCA - (Sem I & II) w.e.f. - July 2017-18			
Paper	**Semester -I**	**Paper**	**Semester –II**
BCA 101	Foundation Course for Managers	BCA 201	Financial Accounting
BCA 102	Computer Fundament and Networking	BCA 202	Professional Communication
BCA 103	Essential of Web Design I	BCA 203	Essential of Web Design II
BCA 104	Programming In C	BCA 204	Programming In C++
BCA 105	Practical on Computer & Internet	BCA 205	Practical on Professional Communication
BCA 106	Practical on Web Design-I	BCA 206	Practical on Web Design-II
BCA 107	Practical on C Programming	BCA 207	Practical on C++ Programming

Second Year BCA - (Sem III & IV) w.e.f. - July 2018-19			
Paper	**Semester -III**	**Paper**	**Semester –IV**
BCA 301	Mathematics and Statistics for Managers	BCA 401	Introduction to Information System Audit
BCA 302	Management Information System	BCA 402	RDBMS
BCA 303	Java Programming	BCA 403	C#.NET
BCA 304	Linux Operating System	BCA 404	Data Structure
BCA 305	Practical on Java	BCA 405	Practical on C#.NET
BCA 306	Practical on Linux	BCA 406	Practical on RDBMS using Oracle
BCA 307	Practical on Tally ERP	BCA 407	Practical on Data Structure using CPP

Third Year BCA - (Sem V & VI) w.e.f. - July 2019-20			
Paper	**Semester –V**	**Paper**	**Semester -VI**
BCA 501	Entrepreneurship Development	BCA 601	E-Commerce & M-Commerce
BCA 502	Cyber Security	BCA 602	Cloud Computing
BCA 503	ASP.NET	BCA 603	Android Application Development
BCA 504	Software Engineering	BCA 604	Server Side Scripting using PHP
BCA 505	Practical on ASP.Net	BCA 605	Practical on Android &PHP
BCA 506	Practical on CASE Tool with MS-VISIO and Software Testing	BCA 606	Practical on Employability Skills
BCA 507	Field Work on IT Project Assessment	BCA 607	Project Report and Viva

NORTH MAHARASHTRA UNIVERSITY, JALGAON
BACHELOR IN COMPUTER APPLICATION
NOTES TO STRUCTURE
(W.E.F. June 2017)

1. English medium is allowed for instructions to all the courses under this programme.

2 For all the courses (except course no 507 & 607 at semester V & VI) there shall be a semester pattern of examination (Theory / Practical) of 100 marks, comprising of external examination of 60 marks, and 40 marks for continuous internal assessment for every course.

Theory Examination	Maximum marks
Internal Assessment ***	**40**
External Examination (Term end examination)	**60**
Total Marks	**100**

a. ***

Two internal tests are to be conducted by the subject teacher. Each test shall be of 20 marks and the concerned teacher shall consider both internal tests for Internal Assessment.

Internal Assessment	Maximum marks
Internal test-I	**20**
Internal test-II	**20**
Total Marks	**40**

3 For course no 507 & 607 at Semester V & VI, Field work & Project has been prescribed for 100 marks, comprising maximum of 50 marks each to be awarded by an external examiner and an internal examiner, based on the field work / project report submitted and the viva-voce thereon. The said examination is to be conducted at the end of the V / VI Semester. In case of course no 507 & 607 of Semester V/VI the 60:40 patterns will not be applicable.

Field Work / Project Report	Maximum marks
Internal Assessment	**50**
External Viva - voce	**50**
Total	**100**

4 There shall be External Examination (Viva-Voce) for Field work and Project Report. The project must be based Computer Software Application (Desktop or Web)

5 The syllabus of each course shall be taught in 4 lectures per week during the semester.

Question Paper Pattern for External Examination

Marks: 60 **Times: 2hrs**

· Attempt any Five.

· Each Question carries 12 marks.

Que.1 **(12 Marks)**

Que.2 **(12Marks)**

Que.3 **(12Marks)**

Que.4 **(12Marks)**

Que.5 **(12Marks)**

Que.6 **(12Marks)**

Que.7 **(12Marks)**

Que.8 **(12Marks)**

Semester –I

North Maharashtra University, Jalgaon

Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 101 - Foundation Course for Managers

w.e.f. 2017-18

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objectives-

- ✓ **To study the fundamental Accounting concepts, terms, jargons and learn the process of recording of financial transactions in the books of Accounts.**
- ✓ **To develop the foundation for higher studies in the field of accounting.**

Unit1- Introduction to Accounting:(theory only) **[10L] [15M]**

1.1 Meaning and definition of Financial Accounting.
1.2 Objectives and scope of Financial Accounting,
1.3 Meaning and use of Book Keeping
1.4 Accounting v/s Book Keeping
1.5 Advantages and Limitations of Financial Accounting.

Unit 2- Basics of Accounting (theory only) **[10L] [15M]**

2.1 Types of Accounting
2.2 Golden Rules of Accounting.
2.3 Double entry system in Accounting
2.4 Terms used in accounting : Debtors, Creditors, Bill Receivable, Bills Payable, Credit Note ,Debit Note ,Petty Cash ,Contra Entry ,Trade Discount ,Cash Discount,Suspense A/c
2.5 Users of accounting information

Unit 3-Recording of transactions: (theory & Practical Problems) **[10L] [15M]**

3.1 Accounting Process from Journal to Final Accounts
3.3 Journals& Problems on Journal Entries
3.4 Subsidiary Books
3.5 Cash Book& Problems on Preparation of Cash Book
3.6 Ledger
3.7 Balancing of Ledger – Balance c /d and Balance b/d (Opening & Closing Balance)
3.8 Rectification of Errors: meaning
3.9 Types of Errors
3.10 Problems on Rectification of Errors

Unit 4- Preparation of final accounts: (theoryonly) **[10L] [15M]**

4.1 Preparation of Trading and Profit & Loss Account and Balance Sheet of sole proprietor
4.1.1 Pro-forma of Trading Accounts
4.1.2 Pro-forma of Profit & Loss Accounts
4.1.3 Pro-forma of Balance sheet
4.2Importance of final accounts to the Businessman, Government,Creditors and other stakeholders of Business.

Unit 5- Conceptual Frame work: (theory only) **[10L] [15M]**

5.1 Brief review of Accounting Standards in India
5.2 Accounting Standards-concept, objectives and Scope
5.3Accounting Principles, Conventions and Concepts
5.4 Accounting Policies

Unit 6: Corporate Banking: (theory only) **[10L] [15M]**

6.1 Bank Pass Book,
6.2 Cheque-meaning and Types
6.4 Discounting of Cheques, Dishonour of Cheque
6.4 Current Account & Savings Accounts (CASA)
6.5 Bank Overdraft, (BOD)
6.6 Cash Credit (CC)
6.7 Internet Banking: meaning & Advantages
6.8 Plastic Money :Debit Card & Credit Card
6.9 RTGS: Real Time Gross Settlement
6.10 NEFT: National Electronic Fund Transfer

Reference Books

Recommended Books

1. Financial accounting: By Jane Reimers (Pearson Education) *ISBN*: 9780136115274
2. Accounting Made Easy By Rajesh Agarwal & R Srinivasan (Tata McGraw –Hill) *ISBN* 0070600600
3. Financial Accounting for Management: By Amrish Gupta (Pearson Education) ISBN - 9788131754528

4. Financial Accounting for Management: By Dr. S. N.Maheshwari (Vikas Publishing House) *ISBN* : 9789325956193
5. Fundamentals of Accounting: S.K Paul

North Maharashtra University, Jalgaon

Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 102 - Computer Fundament and Networking

w.e.f. 2017-18

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objective- To make students well familiar with computer and networking fundamentals.

Unit 1. Introduction: **[10L] [15M]**

History & generation of computer, Block diagram of computer system, Types of computers
Definition- Software, Hardware, Compiler, Interpreter, Characteristics & applications ofComputer,
Data Representation: Introduction to Number system: decimal, binary, octal and hexadecimal, Conversion in Number System, Character representation: ASCII.

Unit 2. Memory Concepts and Input Output Devices: **[10L] [15M]**

Concepts of Memory cell, Types of memory, Primary- RAM, ROM, PROM, EPROM
Secondary - Magnetic disk, hard disk, CD , Input devices - keyboard, mouse, scanner, web camera Output device - printers, plotters, LCD projector

Unit3. Algorithm & flowcharts: **[10L] [15M]**

Definition - Algorithm, flowchart, Flowchart symbols,
Examples for constructing algorithmand flowchart for simple programs (Minimum 5)

Unit 4. Operating System Concepts: **[10L] [15M]**

Definition,Need and Function of an operating system,
Types of operating system,
Comparative study of various operating systems.

Unit 5. Introduction to Network: **[10L] [15M]**

What is Computer Network. Types of Networks: LAN, MAN, WAN, Wireless Networks, Transmission Path: Twisted Pair, Coaxial Cable, Fiber Optics, Working of Internet, Use of Internet, Applications of Internet, Study of Web Browsers, Search Engines, Creating an E-mail Account, Sending & Receiving E-mail (with attachment)

Unit 6.Topologies & Switching **[10L] [15M]**

Topologies: Star, Tree, Bus, Ring, Mesh, Fully Connected.
Switching: Circuit Switching, Packet Switching, Message Switching

Reference Books

1) Fundamentals of computer - V. Raja Raman (PHI Publication) ***ISBN*** 10: 8120340116
2) Computer and commonsense - Roger Hunt and John Shelley (PHI Publication) ***ISBN*** 10: 0131646737
3) Andrew S.Tanenbaum Computer Networks – Fourth Edition. ***ISBN number*** 0130661023

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Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 103 - Essential of Web Design I

w.e.f. 2017-18

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objective- - To make students well familiar Internet and Web designing

Unit 1 - Internet & Web Designing Concepts **[10L] [15M]**

Internet**:** Introduction to Internet, Internet Services, WWW, Hypertext Transfer Protocol (HTTP), URL, Web server, Proxy servers

Web Site Concepts: Web page, static and Dynamic web page, Web site development Phases,

Unit 2 - HTML Fundamentals **[10L] [15M]**

Hypertext Basics, Basic Components of HTML, HTML Tags,Head, and Title Tags, Body Tags, Creating HTML Code using different editor (notepad, EditPlus, TextPad etc.)

Viewing in aBrowser.

Unit 3 - Formatting Text **[10L] [15M]**

Importance of Formatting, Paragraphs and Alignment, Bold Text, Italic Text, Underline, HTML Headings, Ordered List Tags and Attributes, Unordered List Tags and Attributes Nested Lists, Font Tags, Font Attributes, Marquee Tag and Attributes.Heading Tag.

Unit 4 – Images **[10L] [15M]**

Different Image Formats, Image Tags and Attributes,

Background Images and Color

Inserting Audio and Video Files, images Link

Unit 5 - Links & Tables **[10L] [15M]**

How Hyperlinks Work, Anchor Tag and HREF. Attributes, Absolute vs. Relative Links, Border E-Mail Links, and Table Tags & Table Attributes, RowAttributes, Cell Attributes, Merging Rows & Columns.

Unit 6 - Frames and Forms **[10L] [15M]**

Frames, Pros and Cons of Using Frames, Creating Framesets, Frameset Attributes & Frameset Examples, Frame Tag and Attributes,No frames Tag,

Anatomy of A Form, Form Tag And Attributes, Text Boxes, Check Boxes, Radio Buttons, Text Areas, List Box Submit and Reset Buttons

Reference Books

1) Textbook of Web Designing By Joel Sklar, Cengage Learning Publication 2009
2) Web designing in Nut Shell (Desktop Quick Reference) by Jennifer Niederst Publication – O'Reilly publication
3) Designing web navigation by James Kalbach Publication – O'Reilly publication Textbook of
4) Web Designing By Joel Sklar, Cengage Learning Publication 2009 ***ISBN***, 1423901940

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North Maharashtra University, Jalgaon

Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 104 - Programming In C

w.e.f. 2017-18

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objective: Prepare students to acquire knowledge of programming using C. It is the precursor and inspiration for almost all of the most popular high-level languages available today.

Unit 1 -Basics of C Language **[10L] [15M]**

Overview of C: History of C, Importance of C, Structure of a C Program.

Elements of C: C character set, identifiers and keywords, Data types, Constants and Variables, Assignment statement, Symbolic constant.

Input/output: Unformatted & formatted I/O function in C, Input functions viz. scanf(), getch(), getche(), getchar(), gets(), output functions viz. printf(), putch(), putchar(), puts().

Unit 2 -Control Flow and Logical Expressions **[10L] [15M]**

Operators & Expression: Arithmetic, relational, logical, bitwise, unary, assignment, conditional operators and special operators, operator hierarchy & associativity

Decision making & branching: Decision making with IF statement, IF-ELSE statement, Nested IF statement, ELSE-IF ladder, switch statement, goto statement.

Loops control structure: while loop, for loop, do–while loop, nested loop, break , continue, switch, go to, exit statement

Unit 3 -Functions **[10L] [15M]**

Functions: Definition, prototype, passing parameters, scope of variable, storage class, recursion. function Overloading .

Unit 4 -Arrays and String **[10L] [15M]**

Array, array initialization, and Manipulation, Multidimensional array, Strings, Standard library string function strlen(), strcpy(), strcat(), strcmp() etc.

Unit 5 -Pointers **[10L] [15M]**

Definition and declaration, Uses, Initialization, address operator,pointer arithmetic,dynamic memory allocation,arrays and pointers,pointer to function

Unit 6 -Structure, Union **[10L] [15M]**

Structure: use of structure, declaration of structure, accessing structure elements, how structure elements are stored, array of structure, Union, Difference between structure and union.

Reference Books

1) Programming with problem solving through 'C'. (ELSEVIER) (for UNIT I) ***ISBN***-10: 0124058760
2) Programming in C", E. Balaguruswamy Tata McGraw Hill ISBN 10: 1259004619
3) "C The Complete Reference", H. Schildt, Tata McGraw Hill ***ISBN***-13
4) The C Programming language by Brian W. Kernighan Dennis M. Ritchie Prentice Hal SBN ***0-13-110362-8***
5) Text Book - 1. Y. Kanetkar, "Let us C", BPB Publications ***ISBN*** 10: 8183331637 ***ISBN*** 13: 9788183331630

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North Maharashtra University, Jalgaon

Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 105 - Practical on Computer & Internet

w.e.f. 2017-18

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objective: To practically train students in using computer and internet.

1. Run different commands of MS DOS – CD, DIR, COPY, REN, CLS, MD, CD, RD etc.
2. Study information of Internet connectivity components line, VSAT, Broadband,
3. Study information of Internet connectivity components Modem, IP Sharer, Hub, and Switch.
4. Study different web Browsers- Internet Explorer, Fire fox, downloading of files,
5. Connect the Internet; open any website of your choice and save the WebPages.
6. Search any topic related to your syllabi using any search engine and download the relevant material.
7. Create your E-Mail ID on any free E-Mail Server.
8. Login through your E-Mail ID and do the following:
   a. Read your mail
   b. Compose a new Mail
   c. Send the Mail to one person
   d. Send the same Mail to various persons
   e. Forward the Mail
   f. Delete the Mail
   g. Send file as attachment
9. Send any greeting card to your friend.
10. Surf Internet using Google to find information about your State / Country / Famous Personality.
11. Surf Internet using Google to find Tourism information about your state
12. Surf Internet using Google to find colleges around your area.

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Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 106 - Practical on Web Design-I

w.e.f. 2017-18

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objective- - To make students well familiar with internet and HTML Script

1. Create web page using basic HTML tags
2. Createweb page using Marquee Tag and Different Formatting tag.
3. Create a web page using different List tag.
4. Create web page using Anchor Tag (Internal Link and External Link)
5. Create web page to design time table of your college using Table tag.
6. Create Web page with different images.
7. Create web page inserting audio and video files.
8. Design a web page using Frames and Frameset Tag.
9. Design a simple Webpage of College Admission Form.
10. Design static and simple website for your college.

North Maharashtra University, Jalgaon

Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 107 - Practical on C Programming

w.e.f. 2017-18

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objective: To practically train students in C programming language.

1. Write a program in C to demonstrate Arithmetic operators.
2. Write a program in C to demonstrate Relational operators.
3. Write a program in C to check the number is palindrome or not.
4. Write a program in C to check the number is Armstrong or not.
5. Write a program in C for Fibonacci series up to given term.
6. Write a program in C to find factorial of given number.
7. Write a program in C for Matrix Addition/subtraction.
8. Write a program in C for Function Overloading.
9. Write a program in C for swapping two integer numbers using call by value and call by reference
10. Write a program in C which demonstrates the string function.
11. Write a program in C to demonstrate pointer variable.
12. Write a program in C to demonstrate structure.

Semester –II

North Maharashtra University, Jalgaon

Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 201 Financial Accounting& Costing

w.e.f. 2017-18

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

'A' Grade NAAC Re-Accredited (3rd Cycle)

Objectives:

- ✓ **To give the practical knowledge of accounting to the students.**
- ✓ **To make the students competent in preparation of Accounts for the Business Entities.**

Note: For Question Paper Pattern of subjects related to Accounts & Costing refer guidelines given in syllabus instructions.

SCECTION-I FINANCIAL ACCOUNTING

Unit 1: Basics of Accounts(Theory and Practical Problem) [10L] [15M]

1.1 Types of Accounts&Golden Rules of Accounts
1.2 Journal: - Concept and Problems on Journal Entries.
1.3 Types of Journals: Cash Book, Sales Book, Purchase Book, Debtor Book, Creditor Book, Petty Cash Book, Bills Receivable Book and Bill Payable Book
1.4 Ledger: - Concept, Pro-forma
1.5 Ledger Posting and Ledger Balances
1.6 Cash Book: Types &
1.7 Problems on Preparation of Cash Book

Unit 2 Preparation of Final Accounts:(Theory and Simple Practical Problem) [10L] [15M]

2.1 Trial Balance: - Concept, Objectives and Pro forma
2.2 Preparation Of Trading, Profit and Loss and Balance-sheet (Horizontal Format- i.e. Regular Format)
2.3 Importance of Final Accounts in Business.

Unit 3: Accounting Standards (Theory) [10L] [15M]

3.1 Meaning of Accounting Standards
3.2 Objectives and Scope of Accounting Standards
3.2 AS- 1 – Disclosure of Accounting Policies
3.3 AS- 2- Valuation of Inventories
3.4 AS- 6- Accounting for Depreciation
3.5 AS- 10 – Accounting For Fixed Assets

Chapter 4: Bank Reconciliation Statement (Theory and Simple Practical Problem) [10L] [15M]

4.1 Meaning and concept
4.2 Need of Bank reconciliation statement
4.3 Reasons of Difference between the balance of Cash Book and Pass Book
4.4 Preparation of Bank Reconciliation Statement

SCECTION-II COST ACCOUNTING

Unit 5: Fundamentals of Cost Accounting (Theory and Problem) [10L] [15M]

5.1 Cost, Expense, Loss : Meaning
5.2 Costing, Cost Accounting
5.3 Types of Costs on the basis of various criteria
5.4 Advantages and Limitations of Cost Accounting
5.5 Difference between Financial Accounting and Cost Accounting
5.6 Cost Sheet: Importance and objectives of Cost Sheet
5.7 Format of Cost Sheet&Preparation of Cost Sheet**(Problem)**

Chapter 6 Material Control (Theory and Problem) [10L] [15M]

6.1 Importance of Materials accounting and control in Industry
6.2 Different Level of Materials & their Calculations :
6.3 Economic Order Quantity (EOQ), Maximum Level, Minimum Level, Average Level, Reorder Level, Danger Level
6.4 Procedure and documentation of Purchasing and Storekeeping
6.5 Pro forma / Formats of:
6.5.1 Purchase Requisition
6.5.2 Purchase Order,
6.5.3 Bin Cards,
6.6 Inventory Pricing Methods:
6.6.1 FIFO, LIFO, Simple Average Method: Advantages
6.6.2 Problems on Preparation of Store ledger under FIFO, LIFO, Simple Average Method

Reference Books

References:

1) Introduction to Accountancy – T. S. Grewal& S. C. Gupta – S. Chand – 8thEdition ISBN 10: 8121905699 / ISBN 13: ***9788121905695***
2) Accounting Made Easy: By Rajesh Agarwal & R Srinivasan (Tata McGraw –Hill) ***ISBN*** 1403 910324. 2.
3) Fundamentals Of Accounting, Dr. S.N. Maheshwari&Dr.S.K. Maheshwari, Vikas Publishing House, New Delhi ***ISBN*** 13: 9788180544491
4) Financial Accounting – Jawaharlal &Shrivastava – S.Chand & Sons ***ISBN*** 0-672-32901-8
5) Accounting for Managers - Vijay Kumar – TMH ***ISBN*** 13: 9780070090170
   Advanced Accounts, M.C. Shukla, T. S. Grewal& S.C. Gupta, S. Chand & Co Ltd. ***ISBN*** 13: 9788121910163

North Maharashtra University, Jalgaon

Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 202 Professional Communication

w.e.f. 2017-18

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objective-To impart the basic communication skills among students.

Unit 1 - Basics of Communication [10L] [15M]

1) Meaning & Objectives of communication,
2) Process of communication, Importance of communication,
3) Steps of Effective Communication
4) Methods of Communication
   a) Verbal & Non verbal
   b) Oral & Written
   c) Internal & External

Unit 2 - Use of English Language [10L] [15M]

1) Tenses in a Nutshell -For proper sentence construction.
2) Punctuation: Commas, Semi-colons, colons, Hyphens & Dashes, Apostrophes
3) Vocabulary Building -; Antonyms and Synonyms; Prefixes and Suffixes
4) Development of English Language: through LSRW Skills Listening, Speaking, Reading, Writing

Listening to common English Sentences, Popular and Motivational Speeches.

Speaking Routine and situational Conversation; Just two Minutes - 2 Minute talk on any topic

Reading Skills- Speed reading techniques -Loud and silent, Reading-Simple Motivational success stories of well known people.

Tactful Use of Language: Asking for action, talking about errors, Techniques of Emphasis

Unit 3- Written Communication-I [10L] [15M]

1) Meaning, Distinction with Oral Communication, Merits & Limitations of Written communication.
2) Letter writing, Essentials of Good Business letters
3) Types of letters: Types of Application Letters- Application to Director for Leave, Application for delayed fee payment, Application for Bonafide Certificate.
4) Writing Direct Messages by Manager –Delivering: Positive, Neutral & Negative Information.

Unit 4 - Written Communication –II [10L] [15M]

1) E-mail –Drafting & Sending Emails
2) Report Writing: Meaning & Nature of Report, Formats of Reports –Formal, Informal reports, Writing Reports -Data collection, organizing, presentation of the Report.

Unit 5 - Organizational Communication –I [10L] [15M]

1) Job Applications: Covering Letter-Resume –Appointment Letter
2) Meaning & Importance of Organizational Communication.
3) Upward and Downward Communication

4) Horizontal Communication
5) Grapevine.

Unit 6 - Organizational Communication –II **[10L] [15M]**

1) Internal communication: Notice, Circular, Memo.
2) External Communication –Enquiries, Quotations, Bank & Financial Institutions
3) Holding Press Conferences & Preparing Press Releases

Reference Books

1) Effective Technical Communication by M AsharfRizvi Tata McGraw-Hill Publisher ***ISBN***:9780070599529,
2) Communication for Business –Taylor & Chandra –Pearson ***ISBN*** 13: 9788131727652
3) Business Communication –Rai&Rai –Himalaya ***ISBN*** 0415213002
4) Business Communication by Raman & Singh, Oxford Publication ***ISBN*** 13: 9780198077053
5) Basics of Business Communication –Lesikar&Flatley –Tata McGraw Hills ***ISBN*** 13: 9780070599765
6) Business Communication –C.S. Raydu –Himalaya Publishing House ***ISBN*** : 817866125X

North Maharashtra University, Jalgaon

Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 203 Essential of Web Design II

w.e.f. 2017-18

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objective- - To make students well familiar with JavaScript and CSS

Unit 1 - Introduction to Cascading Style Sheets [10L] [15M]

- Advantages of Style Sheets,
- Role of CSS in Web Designing,
- Rules of CSS
- CSS Structure and Syntax
- Selectors and declarations
- Working with style classes
- Working with style IDs
- Child Selector
- Type Selector
- Inheriting styles Using Different Kinds of Style Sheets
- Internal style sheets, External style sheets

Unit 2 - Using Cascading Style Sheets [10L] [15M]

- Managing Layout and Positioning
- Visual layouts, Positioning
- Changing Fonts for Visual Interest and Better Readability
- Body text
- Headings
- Hyperlinks
- Externalizing Style Sheets
- Using CSS with Multimedia
- Visual media styles
- Paged media styles

Unit 3 - Introduction to Java Script [10L] [15M]

- Meaning of Scripting Language,
- Types of Scripting Language (JavaScript, VBScript, Perl, ASP, PHP
- Differences between client-side and server-side scripting.
- Writing JavaScript into HTML.

- Basic Programming Techniques: Data Types and Literals, Creating variables, JavaScript Array, operators and Expressions (Arithmetic, Logical. Comparison. Assignment operator) in JavaScript.
- JavaScript Programming Constructs: Conditional checking (if-then-else statement), Loops (for loop and While loop),

Unit 4 – Java Script Function **[10L] [15M]**

- Creating functions in Java script
- Java Script Built-in String function
- Handling Web Page Events – OnClick, OnMouseOver, OnMouseOut, OnBlur etc.
- Dialog Boxes (Alert, Prompt and Confirm Dialog Box)

Unit 5 – Java Script Objects **[10L] [15M]**

- Array Object
- Date & time object
- Math object
- String object
- Document object
- History object

Unit 6 – Java Scripting and forms **[10L] [15M]**

- Form Object's - Properties and Methods
- Form Actions – Reset and Submit.
- Form Validation – E-Mail, Not Null, Number etc.

Reference Books

1) The ABC's of Java Script by Lee Purcell Mary Jane Mara, BPB Publication .***ISBN***: 8170298261.
2) The Complete Reference – Web Design, Thomas A. Powell, TMH, ISBN 0-07-041186.
3) How to become webmaster in 14 days, James L Mohler, Techmedia ***ISBN*** 1575211696.
4) HTML, DHTML, JavaScript, Perl & CGI by Ivan Bayross, BPB Publishing ... ***ISBN***: 8176562742
5) Web References: www.w3c.org, www.sybex.com ***ISBN*** 0-07-041186
6) Web Enabled Commercial Application Development using HTML, DHTML, Java Script,PERL ISBN 13: ***9788183330084***.
7) CGI By Ivan Bayross, BPB Publication ***ISBN*** 13: 9788183330084

'A' Grade NAAC Re-Accredited (3rd Cycle)

North Maharashtra University, Jalgaon

Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 204 Programming In C++

w.e.f. 2017-18

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objective- To train students in programming using object oriented concepts with C++.

Unit 1 – Introduction and Basics of OOP's **[10L] [15M]**

- Introduction to Object Oriented Paradigm,
- Need Object-Oriented Programming,
- Characteristics of Object-Oriented Programming.
- Difference of Structured Vs. OOPs

Unit 2 –C++ Controls , Pointers & Functions **[10L] [15M]**

- Input/ Output in C++,
- Data Types, Operators,
- Control & Conditional Statements,
- Pointer variables,
- Array of pointer,
- Pointer arithmetic,
- Function and its components,
- Different types of parameter passing mechanisms,
- Pointer as function argument
- Recursive function,
- Function overloading,
- Inline Function,

Unit 3 –Object and Classes **[10L] [15M]**

- Class declaration in C++,
- Objects,
- Constructors and types of constructor (Default constructor, Copy Constructor, Parameterized constructor).
- Destructor,
- Difference between classes and structures.
- Friend class Friend Function

Unit 4 – Operator Overloading **[10L] [15M]**

- Operator overloading,
- Overloading Unary & Binary Operators without friend function.

- Features of operator overloading,
- Operators overloading using friend function.

Unit 5 – Inheritance **[10L] [15M]**

- Inheritance- definition, concept,
- Types of Inheritance,
- visibility modes- Public, Private, Protected,
- Virtual Base Class,
- Benefits of Inheritance,

Unit 6 – Virtual Functions, Templates & Exception& File handling **[10L] [15M]**

- Virtual Function,
- Pure Virtual Functions,
- Abstract classes,
- Function Templates
- Exception handling constructs.

Reference Books

1. Mastering C++ by K R Venugopal, Rajkumar, T Ravishankar, Publication - TMH
2. Exploring C++ by YashwantKanetkar
3. Object Oriented Programming using C++ by W. Balguruswamy, Publication - TMH
4. The C++ Programming Language by BjaraneStroustrup,

North Maharashtra University, Jalgaon

Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 205 Practical on Professional Communication

w.e.f. 2017-18

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objective- To impart basic communication skills among students

1. Prepare letter of application to
   a. The Director/Head for leave
   b. The Director/Head for delay in payment of fee.
   c. The Director/Head for Bona fide Certificate
2. Prepare Notice
3. Prepare Memo
4. Prepare Circular
5. Create E-mail
6. Prepare Written Report
7. Prepare Grammar Worksheet – Punctuation (Prepare 10 to 15 sentences using various punctuation marks)
8. Prepare Grammar Worksheet – Tenses (Prepare 10 to 15 sentences using various tenses)
9. Give a two minute talk on a topic of choice (With proper beginning and ending)
10. Prepare a Report
11. Draft a Resume
12. Write a Job Application Letter including a covering letter

Note: Students may use their creativity.

North Maharashtra University, Jalgaon

Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 206 Practical on Web Design-II

w.e.f. 2017-18

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objective- - To make students well familiar with css and JavaScript

1. Create web page to set background color using CSS.
2. Create web page to set different font style to each paragraph.
3. Design a web page using Inline and Internal CSS
4. Demonstrate the use of External CSS
5. Create a Webpage different background images using CSS.
6. Write JavaScript code to demonstrate different string functions.
7. Write JavaScript code to demonstrate different events.
8. Create a HTML page to demonstrate Date & Time object using JavaScript.
9. Write JavaScript code to demonstrate use of Dialog Boxes (Alert, Confirm, and Prompt).
10. WriteJavaScript code to validate E-Mail Id.

North Maharashtra University, Jalgaon

Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 207 Practical on C++ Programming

w.e.f. 2017-18

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objective- To practically train students in programming in object oriented way using C++.

1. Write a program to check given number is prime or not.
2. Write a program to demonstrate use of Function overloading
3. Write a program to demonstrate encapsulation using of class.
4. Write a program to demonstrate use constructors and Destructor.
5. Write a program to demonstrate single inheritance
6. Write a program to demonstrate multiple inheritances.
7. Write a program to demonstrate use of operator overloading using friend function.
8. Write a program to demonstrate use of operator overloading without using friend function.
9. Write a program to demonstrate use of friend function.
10. Write a program to demonstrate use of Friend class.
11. Write a program to demonstrate use of Virtual functions
12. Write a program to demonstrate use of function templates.

Second Year - Semester –III

'A' Grade NAAC Re-Accredited (3rd Cycle)

North Maharashtra University, Jalgaon

Faculty of Science and Technology
BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 301 : Mathematics and Statistics for Managers

w.e.f. 2018-19
Total Lectures: 60
[Total Marks: 60 External + 40 Internal =100 Marks]

Objective :To impart the required knowledge of Mathematics and statistics for managerial activities among students.

Unit 1: Mathematical Logic [10L] [15M]

1.1. Meaning of Statement
1.2. Primitive and Compound Statements
1.3. Truth Values of a Statement
1.4. Law of Excluded Middle
1.5. Logical Operations: Negation, Conjunction & Disjunction Implication, Double Implication, Equivalence
1.6. Equivalence of Logical Statements
1.7. Truth Tables & Construction of Truth Tables
1.8. Tautology and Contradiction
1.9. Argument: Valid And Invalid Arguments

Unit 2: Sets [10L] [15M]

2.1. Meaning of a Set
2.2. Methods of Describing a Set
  2.2.1. Tabular Form
  2.2.2. Set Builder Form
2.3. Types of a Set:
  2.3.1. Finite Set, Infinite Set, Empty Set, Subset, Universal Set,
  2.3.2. Equal Sets, Overlapping Sets, Disjoint Sets, Complementary Set.
2.4. Operations on Sets
  2.4.1. Union of Sets
  2.4.2. Intersection of Sets
  2.4.3. Difference of Sets
2.5. Demorgan's Laws (Without Proof)
2.6. Venn Diagrams
2.7. Cartesian Product of Two Sets
2.8. Statement of Following Laws (Without Proof) Relating To Union and Intersection of Sets :- Idempotent Laws (ii) Identity Laws (iii) Commutative Laws (iv) Associative Laws (v) Distributive Laws

Unit 3: Matrices [10L] [15M]

3.1. Meaning of a Matrix, Order Of Matrix
3.2. Types of Matrix
3.2.1. Zero Matrix, Column Matrix, Square Matrix, Diagonal Matrix,
3.2.2. Scalar Matrix, Unit Matrix
3.2.3. Symmetric Matrix, Skew-Symmetric Matrix,
3.2.4. Transpose of a Matrix: Singular Matrix & Non -Singular Matrix.
3.3. Algebra of Matrices:-
3.3.1. Equality of Matrices

3.3.2. Multiplication of Matrix by A Scalar
3.3.3. Addition of Matrices, Subtraction of Matrices
3.3.4. Multiplication of Matrices

Unit 4: Introduction to Statistics [10L] [15M]

4.1. Meaning of Statistics
4.2. Importance and Limitations of statistics
4.3. Meaning of data, Raw data, Primary data, Secondary data
4.4. Variable and attribute, Types of variable: - districts and continuous
4.5. Meaning of Population and sample
4.6. Introduction to methods of sampling: - simple
random sampling and strafied random sampling

Unit 5: Measures of central tendency [10L] [15M]
5.1 Meaning and central tendency
5.2 Statement of measures of central tendency: - arithmetic mean, geometric mean, harmonic mean, median and mode
5.3 Computation of these measures of central tendency for given raw data
5.4 Partition values: - quartiles, deciles and percentiles
5.5 Computation of partition values for given raw data

Unit 6: Mathematical and Statistical Calculations using MS-EXCEL [10L] [15M]

6.1 Step by step procedure to perform basic logicalfunction using MS-Excel
6.2 Step by step procedure to perform basic mathematical function with MS-Excel
6.3 Step by step procedure to perform basic statistical function using MS Excel

Reference Books

- Business Mathematics Sancheti&Kapoor Sultan Chand & Co. New Delhi ***ISBN*** 10: 8180545385
- Business Mathematics & Analytics Anand Sharma Himalaya Publishing ***ISBN*** 13: 9788180545382
- Business Mathematics Dr.Ramnath Dixit and Dr. .Jinendra Jain Himalaya Publishing
- Business Mathematics & Statistics: Punaini, Pearson Education ***ISBN***: 9780070612044
- Business Statistics C M Chikkodi& B G Satyaprasad Himalaya Publishing
- Business Statistics S P Gupta Sultan Chand &Co.NewDelhi ***ISBN*** : 8180549453
- MS-Excel Help files from Microsoft ***ISBN***-13: 978-1285168432

North Maharashtra University, Jalgaon

Faculty of Science and Technology
BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 302 : Management Information Systems

w.e.f. 2018-19
Total Lectures: 60
[Total Marks: 60 External + 40 Internal =100 Marks]

Objectives: To impart the knowledge of MIS among students.

1 Introduction **[10L] [15M]**
Definition, Purpose, Objectives and Role of MIS in Business Organization with particular reference to Management Levels. MIS Growth and Development,

2 MIS in the Organization **[10L] [15M]**
Concept and design. Transaction Processing System, Decision Support System, Executive Information system, Expert System, and the recent developments in the field of MIS.

3 System Development **[10L] [15M]**
Concept of System, Types of Systems – Open, Closed, Deterministic, Probabilistic, etc. Relevance of choice of System in MIS, Integration of Organization Systems and Information Systems,

4 System Development Life Cycle **[10L] [15M]**
System Analysis, Design and Implementation, MIS Applications in Business.

5 Information Concepts **[10L] [15M]**
Data and Information – meaning and importance, Relevance of Information in Decision Making, Sources and Types of Information, Cost Benefit Analysis – Quantitative and Qualitative Aspects, Assessing Information needs of the Organization.

6 Information Technology **[10L] [15M]**
Multimedia Approach to Information Processing. Decision of Appropriate Information Technology for proper MIS.Choice of appropriate IT Systems – Database, Data warehousing & Data mining Concepts, Centralized and Distributed Processing.

Reference Books

1) Javadekar, W.S."Management Information System", Tata Mac Graw Hill Publication,2003. ***ISBN*** 0-07-282256-2
2) Davis,B.Gordon, "Management Information System", Tata MacGraw Hill Publication,2002. ***ISBN*** 13:978-0-07
3) Gupta,A.K, "Management Information System",S Chand Puplications,2003 ISBN13: 9788121919937
4) Arora,Ashok&Bhatia,Akshaya, "Management Information System", Excel Books,NewDelhi, 2001 ***ISBN***: 978-81-7446-781-2
5) Basandra,Suresh K., "Management Information System", Wheeler Publishing,New Delhi,999.
6) O'Brien, James A., "Management Information System", Tata McGraw Hill, 2003 ***ISBN*** 81-203-1282-1

North Maharashtra University, Jalgaon

Faculty of Science and Technology
BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 303 : JAVA Programming

w.e.f. 2018-19
Total Lectures: 60
[Total Marks: 60 External + 40 Internal =100 Marks]

Objectives: To impart the knowledge of object oriented programming using java among students.

Unit 1: Introduction To Java **[10L] [15M]**

Java as programming tool, Advantages of Java (Simple, Object Oriented, Distributed, Robust, Secure, Architecture Neutral, Portable, Interpreted, High performance, Multithreading, dynamic), Java& Internet.

Unit 2: Fundamental Programming **[10L] [15M]**

Comments, Data types (Integer, floating pt., character type, Boolean, enumerated), Casting, Variables, Arrays, Assignments, Initializations (Conversion between Numeric Types, constants), Operators, Input and Output, a simple java programs, Compiling and running Java programs using command line and Editors, command line arguments. Control flows: conditional statement, loops, Switch statement, and Block scope

Unit 3: Objects and Classes **[10L] [15M]**

Introduction, Defining a class, Adding variables, Adding methods, Creating objects, Accessing class members, Constructors, Method Overloading, Static members, Nesting of methods, final methods.

Unit 4: Function and Package **[10L] [15M]**

String functions (Concatenation, substring, string editing, testing for equality etc), Formatting functions, Creating and UsingPackage, User defined packages

Unit 5: Inheritance **[10L] [15M]**

Inheritance, Inheritance hierarchies, super class, sub class, Polymorphism, Abstract classes, Access modifiers, Introduction to Wrapper classes, Interfaces, Inner classes. Use of Final.

Unit 6: Multithreading, Exception&Applet in Java **[10L] [15M]**

What Are Threads, Thread States,
Introduction to Exceptions- Try, Catch, Throw, Throws and Finally.
What is an Applet, Applet lifecycle, Use of java.awt.graphics class and its various methods in an applet

Reference Books

1) Core Java Volume- I Fundamentals- By: Cay's Horstmann and Gray Cornell ISBN-*13*: *978-0-13*-708160-8
2) Programming with Java- By: E Balagurusamy (Tata McGraw Hill) ISBN: ***9780070141698***
3) The complete reference JAVA-2 Fifth Edition By: Herbert Schildt (TMH) ***ISBN***: 0 07 881538

'A' Grade NAAC Re-Accredited (3rd Cycle)

North Maharashtra University, Jalgaon

Faculty of Science and Technology
BACHELOR OF COMPUTER APPLICATIONS (BCA)
BCA 304 : LINUX Operating System.

w.e.f. 2018-19
Total Lectures: 60
[Total Marks: 60 External + 40 Internal =100 Marks]

Objectives:
1. **To make students understand the features of Linux operating system**
2. **To make students learn the components of Linux**
3. **To learn basic Linux commands and printing Linux documents.**

Unit 1 **[10L] [15M]**

History and Development of Linux -
A Brief History of Linux, Basic features of Linux OS, components of Linux System, Benefits of Linux, Acquiring and Using Linux, Examining Linux Distributions.

Unit 2 **[10L] [15M]**

System Access and User Accounts -Logging In and out Using the Linux System, Creating Additional User Accounts, Creating & Managing Groups, Managing Users Linux Commands.

Unit 3 **[10L] [15M]**

Introduction to The File System and Working with Linux Permissions , File System Navigation, Managing The File System Understanding Permissions, Changing File And Directory Permissions, Changing Default Permissions And Ownership

Unit 4 **[10L] [15M]**

File Operations -Archiving Files Archiving Files With Tar, Archiving Files With CPIO, Zipping Files, Creating and Viewing Files Using The Vi Editor, Studying Other Editors,

Unit 5 **[10L] [15M]**

Redirection, Introduction to Programming In C Using Linux (gcc), Introduction To X Windows And GNOME

Unit 6 **[10L] [15M]**

Working in X Windows (utilities), Managing Files and File Systems, Customizing X Windows, Choosing and Changing Window Managers and Desktops Remote X Window Access

Reference Books

1) 1 McAllister, Suse Linus-10, Pearson Education, 2006 ***ISBN***-81-7808-488-0 PHI. 2.
2) Ball, Using Linux, PHI, 1998. ***ISBN***-10: 0789716232
3) Das, UNIX: Concepts and Applications (4th Ed), TMH, 2006 ISBN 13: ***9780070635463***.
4) Foster Johnson, Welch, Anderson, Beginning Shell Scripting, Wiley India (Wrox), 2006 ***ISBN***-10: 0764583204
5) Neil Mathew, Richard Stones, Beginning Linux Programming (3rd Ed), Wiley India (Wrox), 2006 ***ISBN***: 978-0-470-14762-7
6) Peterson, Linux: Complete Reference (5th Ed), Peterson, TMH. ***ISBN*** 10: 0070222940

'A' Grade NAAC Re-Accredited (3rd Cycle)

North Maharashtra University, Jalgaon

Faculty of Science and Technology
BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 305: Practical on JAVA.

w.e.f. 2018-19
Total Lectures: 60
[Total Marks: 60 External + 40 Internal =100 Marks]

1. Write a Java program that demonstrates program structure of java. (Fibonacci Series, Factorial etc.)
2. Write a Java program to demonstrate use of class and object.
3. Write a Java program that demonstrates all string operations.
4. Write a Java program to demonstrate use of constructor and finalize method.
5. Write a Java program to demonstrate use of method overloading.
6. Write a Java program to demonstrate use of wrapper class
7. Write a Java program to demonstrate use of package.
8. Write a Java program that demonstrates inheritance.
9. Write a Java program to demonstrate interface.
10. Write a Java program that demonstrates inner class.
11. Write a Java program that demonstrates Exception (Divide by 0).
12. Write a Java program that demonstrates AWT control (Label, Textbox, Button etc.).

'A' Grade NAAC Re-Accredited (3rd Cycle)

North Maharashtra University, Jalgaon

Faculty of Science and Technology
BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 306: Practical on Linux.

w.e.f. 2018-19
Total Lectures: 60
[Total Marks: 60 External + 40 Internal =100 Marks]

1. Access: Logging In. Linux Commands. Getting Help. Obtaining Information about Your System.
2. Starting and Stopping Linux: Shutting Down a Linux System, Booting a Linux System.
3. Demonstration of Linux commands with attributes: - pwd, cd, ls, more, less, echo, clear, kill, ps, man, cal, date, who, who am I, WC, mkdir, rmdir, rm, sort.
4. File and File Permission: Creation of Files, and changing their permission (Cat,vi, Chmod)
5. Archiving Files: Archiving Files with tar
6. Write a shell script to display first 20 terms of Fibonacci series.
7. Write a shell script to display current time of system and display the message according to the time.
8. Write a shell script to check the user is login or not and say hello.
9. Write a shell script to calculate factorial of a number
10. Using filters & redirections: create new processed files (Using Head, tail, cut, paste etc. create resultsheet/salarysheet)
11. Develop a C Program In Linux to find out 20 terms of Fibonacci series.
12. Develop a C Program In Linux to calculate factorial of a number

'A' Grade NAAC Re-Accredited (3rd Cycle)

North Maharashtra University, Jalgaon

Faculty of Science and Technology
BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 307 : Practical on Tally ERP

w.e.f. 2018-19
Total Lectures: 60
[Total Marks: 60 External + 40 Internal =100 Marks]

Objective :To practically train students in Accounting using Tally ERP.

I] List A of Practical -

Assignment 1. Create a Company BCA Ltd. to maintain Financial Accounts only using hypothetical address and other details. The company maintains its books of accounts on financial year basis.
(a) Make the default setting for printer assuming that the reports are printed on the stationery with a letterhead printed on the top that consumes the space of one inch.
(b) The Company wants to print the amount in Indian Currency with space between Rs and amount.

Assignment 2. Create a Company Temporary Ltd. (Store data in C:/work/temp) having financial year as the accounting year. It is a newly set up company that has commenced its business from 1st October 2007. Other details may be enteredas per your assumption, except the Income Tax Number (PAN); upon saving the company, enter the Income tax number PAN as FYBCA0278S. Delete the Company created for Temporary Ltd.

Assignment 3. Create Groups following the hierarchy shown below -
Debtors - International
Debtors - National
Debtor- South
Debtor- North
Debtor- Central

Assignment 4. Create the following Ledger accounts, place under appropriate group (Create new groups whenever necessary)
(a) Wages paid to factory workers
(b) Wages paid to temporary workers
(c) Salary paid to H.O. employees
(d) Salary paid to Branch employees
(e) Share Capital (Rs. 5,00,000 Cr.)
(f) Telephone Charges

Assignment 5. a) Create at least 8 imaginary ledger account and place them under appropriate group – in the books of an Educational Institution.

b) Modify the above company to record account of a new asset which was not these earlier.

c) Creation of ledger consist of
1. Debtors in regional hierarchy, at least 4 groups
2. Sales at least 4 groups
3. Fixed assets groups at least 3 ledgers
4. Capital groups at least 3 – 5 parties ledgers
5. Purchases group at least 3 ledgers
6. Creditors at least 3 groups. Take imaginary opening balance.

Create the following Ledger

Name	**Group**	**Opening Bal. Rs.**
Khandesh Textile	Debtors- South	5,000 Dr.
Kanpur Textile	Debtor Central	0
Lucknow Textile	Debtor- North	0

Honda Corporation Debtors- International 0
Jackson Textile Debtors- International 0
Bank of Maharashtra Bank Account 60,000 Dr.
Sales- Domestic Sales Account 0
Sales- International Sales Account 0
Purchases Purchase Account 0
Building Fixed Assets 6,00,000
Furniture Fixed Assets 30,000

Assignment 6. Create a Short-life Company Ltd, and copy all the masters from the BCA Ltd. To the Short-life Company Ltd. Select the Short-life Company created, and check whether all the masters (Groups & Ledgers) have been copied. Delete the Short-life Company.

II] List B of Practical -

1. Preparing Purchase Register and Sales Register entering the transactions relating to Purchase (including discount), Sales (including discount), Purchase-Returns, Sales-Returns [Minimum 8 to 10 transactions be recorded]
2. Preparing Trial Balance with the minimum of 10 to 12 transactions.
3. Preparing Balance Sheet with transactions regarding Trading and Profit & Loss Account with adjustments. Alternatively, preparing Income & Expenditure Account for a non-trading concern along with the Balance Sheet.
4. Modifying Vouchers, deleting Voucher entries – using imaginary transactions. The above list is illustrative. A teacher, if required, may conduct similar additional practical on the above line in such a way as to cover the syllabus. Minimum of 3 practical each must be completed by a student from List A& List B to get the Journal certified.

Semester –IV

North Maharashtra University, Jalgaon

Faculty of Science and Technology
BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 401: Introduction to Information System Audit.

w.e.f. 2018-19
Total Lectures: 60
[Total Marks: 60 External + 40 Internal =100 Marks]

Objective: To impart the knowledge and importance of Information System and Audit among Students for Quality Management.

1) Overview of Information System Auditing - I **[10L] [15M]**
a) Organizational Costs of data loss
b) Incorrect decision making
c) Cost of Computer Abuse
d) Value of Computer Hardware, Software and Personnel
e) High cost of Computer Error
f) Maintenance of Privacy
g) Controlled evolution of computer use
h) Definition Information System Audit
i) Objectives – Asset safeguarding, Data Integrity, System Effectiveness, System efficiency.

2) Overview of Information System Auditing - II **[10L] [15M]**
a) Separation of Duties
b) Delegation of authority and responsibility
c) Competent and trustworthy personnel
d) System of Authorization
e) Adequate documents and records
f) Physical Control over assets and records
g) Adequate management supervision
h) Independent checks on performance
i) Comparing recorded accountability with assets

3) Conducting an Information System Audit **[10L] [15M]**
a) Introduction
b) Nature of Controls
c) Audit Risks
d) Types of Audit Procedures
e) Steps inan Audit
f) Auditing Around or Through the Computer

4) Data Management Controls **[10L] [15M]**
a) Functions and motivations of DA and DBA roles
b) Organizational Issues
c) Data Repository Systems
d) Control over DA and DBA

5) Information System Audit Management and ISA Professionalism **[10L] [15M]**
a) Introduction
b) Managing the Information System Audit Function
c) Planning Function

d) Organizing Function
e) Staffing Function
f) Leading Function
g) Control Information
h) Information System Audit Professionalism
i) Future of Information System Auditing

6) BCP **[10L] [15M]**

a) Introduction to Business Continuity Planning
b) Need of BCP
c) Difference between BCP and DRP
b) Costs associated with BCP

Reference Books

1) Information System Control and Audit – Ron Weber – Pearson Education ***ISBN*** 10: 8131704726
2) Information System Audit and Assurance – D.P. Dube and V.P. Gulati – Tata McGraw Hill ***ISBN***-13: 9780070585690.
3) ISACAs IT Audit standards – ***ISBN***978-0-12-374354-1.

'A' Grade NAAC Re-Accredited (3rd Cycle)

North Maharashtra University, Jalgaon

Faculty of Science and Technology
BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 402: RDBMS.

w.e.f. 2018-19
Total Lectures: 60
[Total Marks: 60 External + 40 Internal =100 Marks]

Objective- To prepare students in using and managing Relational databases and its applications.

UNIT 1: **[10L] [15M]**

Database Systems

Introduction of File Processing System, Introduction of DBMS & RDBMS. Difference between File processing system & DBMS, Difference between DBMS & RDBMS. Applications of RDBMS

UNIT 2: **[10L] [15M]**

Data Models

Relational Model, Network Model, Hierarchical Model, Entity Relationship Model.

UNIT 3: **[10L] [15M]**

Integrity Constraints

Keys: Super, Candidate, Primary, Foreign Key, Entity Integrity, Referential Integrity, Integrity Constraints.

UNIT 4: **[10L] [15M]**

Relational Database Design

Introduction, Normalization, Normal Form:1 NF, 2 NF, 3 NF.

UNIT 5: **[10L] [15M]**

Introduction to Structured Query Language (SQL) using Oracle

Introduction to SQL &Oracle, Data types in oracle, Operators in oracle, Working with tables, Introduction to DML, TCL, DDL, DCL, Integrity constraints, Functions in Oracle, Numeric Function, Character Function, Date Function, Conversion Function, Group Functions.

UNIT 6: **[10L] [15M]**

Sub Queries & Joins

Sub Queries, view, Sequence, Set Operators, Joins, Inner joins, Equi, Non Equi,
Self-join & Outer Joins.

Reference Books

1) 1. Oracle PL/SQL by Example, Rosenweig, Pearson Education ***ISBN*** 10: 0133796787
2) Database System Concepts: - Abraham Silberschatz, Henry F. Korth& S. Sudarshan, McGraw-Hill ***ISBN*** 978-0-07-352332-3
3) Oracle- D2K by Ivan Bayros ***ISBN*** : 8176567426
4) Introduction to Database Management Systems, by – AtulKahate (Pearson Education) ISBN ***9788131700785***

North Maharashtra University, Jalgaon

Faculty of Science and Technology
BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 403: C#.NET.

w.e.f. 2018-19
Total Lectures: 60
[Total Marks: 60 External + 40 Internal =100 Marks]

Objective:To impart the knowledge of object oriented programming using C# among student.

UNIT 1:The .Net framework **[10L] [15M]**

a) Introduction to .NET framework,
b) The Origin of .Net Technology
c) Common Language Runtime (CLR),
d) Microsoft Intermediate Language (MSIL)
e) Just-In –Time Compilation (JIT)

UNIT 2: C# as a Language **[10L] [15M]**

a) Introduction to C #
b) Advantages & Disadvantages of C#
c) Programming Structure of C#
d) Basic Constructs – Variables, Data types, Operators, arrays, functions
e) Control Statements (if statement, if....else statement, nesting of if....else statement, the else if ladder, switch statement), Looping Construct(while statement, do statement, for statement)

UNIT 3:Object Oriented Programming in C# **[10L] [15M]**

a) Class and Object,
b) Constructors and Destructors
c) Inheritance,
d) Interfaces
e) Access modifiers: Public, Private, Protected,
f) Polymorphism
g) Overloading and Overriding
h) Sealed Classes

UNIT 4:Exception handling **[10L] [15M]**

a) Types of errors
b) Syntax of exception handling code
c) Try and catch block
d) Multiple Catch Blocks

UNIT 5: Windows Applications in C#.NET **[10L] [15M]**

a) Introduction to GUI Programming
b) GUI Components/ Controls (Windows Forms, Text Boxes, Buttons, Labels, Check Boxes, Radio Buttons, List Boxes, Combo Boxes, Picture Boxes, Timer, Scrollbars, Menus, Built-in Dialogs, Image List, Tree Views, List Views)

UNIT 6:ADO.NET & Crystal Report **[10L] [15M]**

a) Introduction to ADO.NET
b) Components of ADO.NET
c) ADO.NET Data Providers
d) Working with Disconnected Data
e) Introduction to Crystal report , Creating Simple Report by wizard

Reference Books

1) Illustrated C# 2008, Solis, Publication APRESS, ISBN 978-81-8128-958-2 ***ISBN 978-81-8128-958-2***
2) Professional C# 4.0 and .NET 4by Christian Nagel, Bill Evjen, Jay Glynn, Karli Watson, Morgan Skinner, WROX ISBN: ***978-0-470-50225***-9.
3) Beginning C# Object-Oriented Programming by Dan Clark,Apress ***ISBN***-13 978-1-4302-3531-6
4) ADO.NET Examples and Best Practices for C# Programmers, By Peter D. Blackburn Apress ***ISBN***: 978-1-59059-012-6
5) Database Programming with C#, By Carsten Thomsen, Apress ISBN ***978-1-59059-010***-2

'A' Grade NAAC Re-Accredited (3rd Cycle)

North Maharashtra University, Jalgaon

Faculty of Science and Technology
BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 404: Data Structure.

w.e.f. 2018-19
Total Lectures: 60
[Total Marks: 60 External + 40 Internal =100 Marks]

Objective: To impart the knowledge of data structure among student.

UNIT 1:Introduction : **[10L] [15M]**

Meaning of Data, Data item, Elementary and Group Data items, Meaning of Data Structure, Linear and Non Linear Data Structure, Meaning of Algorithm, Algorithm development

UNIT 2:Arrays : **[10L] [15M]**

Meaning of Array, Dimension of array, Linear and Non-Linear array, Representation of linear array in memory, Traversing linear array, Inserting and Deleting, Sorting (Bubble Sort, Selection Sort, Insertion Sort, Quick Sort, Merge Sort), Searching (Linear Search, Binary Search), Multidimensional Array

UNIT 3: Stack: **[10L] [15M]**

Meaning of Stack, Stack Operation, Array representation of Stack, Polish notation, Arithmetic expression, Recursion,

UNIT 4: Queues: **[10L] [15M]**

Meaning of Queue, Queue Operation, CircularQueue,Dequeue, Priority queue,Queue Applications

UNIT 5: Linked Lists : **[10L] [15M]**

Meaning of Linked List, Representation of linked list in memory, Traversing, Searching, Insert and Delete in singly link list,Introduction to Circular Link List, introduction to Doubly Link List.

UNIT 6: Trees and Graphs: **[10L] [15M]**

Introduction to Tree, Binary tree, representing binary trees in memory, Traversing binary trees, Graph:- Types, representation in memory.

Reference Books

1) Schaum's Outline of Data Structures with C++ ISBN-10: 0071353453
2) Data Structure and Algorithms:Concept, Techniques and Application,G.A.V.Pai ISBN 10: ***0070667268***
3) Data Structure:Balucha ***ISBN***: 978-93-833-0383-0 4

'A' Grade NAAC Re-Accredited (3rd Cycle)

North Maharashtra University, Jalgaon

Faculty of Science and Technology
BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 405: Practical on C#.NET.

w.e.f. 2018-19
Total Lectures: 60
[Total Marks: 60 External + 40 Internal =100 Marks]

Objective: To practically train students in programming in C#.NET

1. Write a program to print “Teach One, Each One, Tree One” given number of times
2. Write a program to show use of different operators
3. Write a program to show use of Looping Constructs
4. Write a program to show use of Constructor
5. Write a program to demonstrate Inheritance
6. Write a program to show use of Exception Handling
7. Create a simple C# application using Label, TextBox, and Button control
8. Create a C# application using ListBox, ComboBox control
9. Demonstrate the use of Timer control in C#
10. Create a C# application using PictureBox, ScrollBar control
11. Demonstrate Simple Database Connectivity using wizard.

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North Maharashtra University, Jalgaon

Faculty of Science and Technology
BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 406: Practical on RDBMS.

w.e.f. 2018-19
Total Lectures: 60
[Total Marks: 60 External + 40 Internal =100 Marks]

1. Demonstration of creating database and table.
2. Demonstrate to INSERT, UPDATE, and DELETE Records in Table.
3. Demonstrate to Alter Table.
4. Defining different types of database constraint. Create table with various constraints as PRIMARY KEY, FOREIGN KEY, and CHECK & NOT NULL Constraints
5. Query based on operators and joins
   - Simple and nested query

6. Write down SQL by using
   i. WHERE Clause
   ii. GROUP BY
   ii. HAVING CLAUSE

7. Write down SQL by using
   i. Aggregate functions
   ii. Date functions
   iii. String functions

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North Maharashtra University, Jalgaon

Faculty of Science and Technology
BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 407: Practical on Data Structures.

w.e.f. 2018-19
Total Lectures: 60
[Total Marks: 60 External + 40 Internal =100 Marks]

Objective: To practically train students in Data structure using C++.

Implement following data structures and its applications using C++

1. Matrix
2. Stack
3. Queue
4. Single Linked List
5. Bubble Sort
6. Recursion
7. Linear Search
8. Binary Search
9. Tower of Hanoi
10. Adjancy matrix representation of graph

Third Year - Semester –V

North Maharashtra University, Jalgaon

Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 501 - Entrepreneurship Development

w.e.f. 2019-20

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objective: To impart the knowledge of Entrepreneurship Development among students.

Unit 1 **[10L] [15M]**

Entrepreneur: meaning- Importance, Qualities, nature, types, traits, culture, similarities and economic and differences between Entrepreneur and Intrapreneur. Entrepreneurship development-its importance- Role of Entrepreneurship -Entrepreneurial environment.

Unit 2 **[10L] [15M]**

Entrepreneurship Development and Government: Role of Central Government and State Government in promoting Entrepreneurship - Introduction to various incentives, subsidies and grants - Export Oriented Units - Fiscal and Tax concessions available.

Unit 3 **[10L] [15M]**

Challenges to Woman Entrepreneurs, Achievements of Woman Entrepreneurs, Role Models of Woman Entrepreneurs, Women Entrepreneurs Problems and Prospects

Unit 4 **[10L] [15M]**

Creating and starting the venture - Steps for starting a small industry - selection of types of organization - International entrepreneurship opportunities.

Unit 5 **[10L] [15M]**

Small Business: Concept & Definition, Role of Small Business in the modern Indian Economy, Small entrepreneur in International business;

Unit 6 **[10L] [15M]**

Steps for starting a small industry, registration as SSI, Role of SIDBI; advantages and problems of SSIs; Institutional Support mechanism in India; Incentives & Facilities, Govt. Policies for SSIs

Reference Books

1. Vasanth Desai "Dynamics of Entrepreneurial Development and Management Himalaya Publishing House ***ISBN*** 81-7014-619-4
2. N.P.Srinivasan&G.P.Gupta," Entrepreneurial Development ", Sultanchand&Sons. ***ISBN***: 8185386196
3. Robert D.Hisrich, Michael P.Peters, "Entrepreneurship Development, Tata McGraw Hill edition ***ISBN*** : 1259001636

North Maharashtra University, Jalgaon

Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 502 - Cyber Security

w.e.f. 2019-20

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objective: To impart the knowledge of Cybercrime and cyber security among students.

1. Introduction to Information Security [10L] [15M]

- History of Information Systems and its Importance, basics,
- Nature of Information Systems,
- Basic Principles of Information Security
- Information System Threats and attacks

2. Security Threats and Controls [10L] [15M]

- Security Threats to E Commerce,
- Business Transactions on Web,
- Concepts in Electronics payment systems, Internet Banking, E-Cash, Credit/Debit Cards.
- Physical Security- Needs
- Disaster and Controls,
- Access Control- Biometrics, Benefits of Biometrics Systems and Criteria for selection of Biometrics.

3. Cryptography [10L] [15M]

- Model of Cryptographic Systems,
- Issues in Documents Security,
- Digital Signature, Requirement of Digital Signature System,
- Finger Prints

4. Network Security [10L] [15M]

- Network Security- Basic Concepts, Dimensions
- Intrusion Detection System
  - Need of Intrusion Monitoring and Detection,
- Virtual Private Networks
  - Need,
  - Use of Tunneling with VPN,
  - Authentication Mechanisms,
  - Types of VPNs and their Usage

5. Cyber Crime [10L] [15M]

- Introduction to Cyber Crime
- Email Tracing and Tracking , Email Spoofing
- Mobile Number Hacking
- Data Recovery
- Cyber Fraud Detection
- Website Hacking
- Web Server/ISP
- Web & DOS Attacks

6. Cyber Law & IT Act **[10L] [15M]**

- Fundamentals of Cyber Law. Introduction to Indian Cyber Law: Information Technology Act
- 2000. Main features of the IT Act2000, Information Technology Amendment Act 2008 and its major strengths.

Reference Books

1) Godbole,"Information Systems Security", Willey ***ISBN*** 10: 8126516925
2) Merkov, Breithaupt," Information Security", Pearson Education ISBN-***10***: ***0-7897-5325-1***
3) Yadav, "Foundations of Information Technology", New Age, Delhi ***ISBN*** 10: 8122417620
4) Schou, Shoemaker, "Information Assurance for the Enterprise", Tata McGraw Hill ***ISBN***:0072255242
5) Sood,"Cyber Laws Simplified", McGraw Hill ***ISBN*** 10: 0070435065
6) Furnell, "Computer Insecurity", Springer 7. IT Act 2000 ***ISBN***: 81 7656494X

North Maharashtra University, Jalgaon

Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 503 - ASP.NET Technology

w.e.f. 2019-20

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objective : To impart the knowledge of web development in students in by using ASP.NET

Unit – 1 Introduction to ASP.NET **[10L] [15M]**

- History of Asp.Net
- Introduction to Asp.Net
- Features of Asp.Net
- Structure of Asp.Net Page
- ASP.NET Web Pages Model(Single Page Model, Two Page Model)

Unit – 2 ASP.NET Controls **[10L] [15M]**

- Working with Basic Web Form Controls.
- HTML Server Controls
- Miscellaneous Basic Controls
- ASP.Net Rich Controls,
- Validation Controls(Required Field Validator, Range Validator, Compare Validator)

Unit – 3 ASP.Net Intrinsic Objects and State Management **[10L] [15M]**

- HTTPRequest Object,
- HTTPResponce Object
- HTTPServerUtility
- HTTPApplicationState Object
- HTTP Session state Object
- State Management - View State, Session, Application, Cookies
- Global Application Class (global.asax)
- Web Configuration File (Web.config)

Unit – 4 Web Site Designing **[10L] [15M]**

- Webpage designing Principals
- Site map
- Master pages and content Pages
- Navigation controls: Tree view, Menu navigation

Unit – 5 Data Access With ADO.Net Object **[10L] [15M]**

- Overview of ADO.NET

- Create and retrieve Database Connections
- SqlDataSource Controls
- ASP.NET Data-Bound Controls
- GridView, Repeater, DataList, Details View, Form View

Unit – 6 Security and Configuration **[10L] [15M]**

- Using the CreateUserWizard control
- Using the LoginStatus control
- Using the Login control
- Using the LoginView control

Reference Books

1. ASP.NET - The Complete Reference, Matthew MacDonald .. ***ISBN***, 0072195134
2. ASP.NET 4.5 IN SIMPLE STEPS (SIMPLE STEPS series), KOGENT LEARNING SOLUTIONS INC., 2013 ***ISBN*** -10: 9350049996
3. Programming ASP.NET, J.Liberty, D.Hurwitz, (3rdEd), O'REILLY, 2006
4. ASP.NET and VB.NET Web Programming, by Crouch Matt J, Addison Wesley 2002. ***ISBN*** 13: 9780201734409
5. www.asp.net
6. http://www.w3schools.com/

North Maharashtra University, Jalgaon

Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 504 - Software Engineering

w.e.f. 2019-20

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objective: The course has been designed to provide a foundation of systems principles and an understanding of System development.

1. System Concept and Information **[10L] [15M]**

- Definition and Characteristics of System
- Elements of Systems
- Types of system – Conceptual & Physical, Natural & artificial, Open & Closed, Deterministic & Probabilistic.
- Feedback and feed forward control system

2. System Development Life Cycle **[10L] [15M]**

- Systems analyst, Roles of System Analysts – As an Architect, Change Agent, Investigator & monitor, Organizer, Motivator & Psychologist.
- Introduction of Systems Development Life Cycle (SDLC)
- Phases of system development:Recognition of need, Problem definition, Analysis, Design, Implementation, Maintenance
- Factors affecting the system development.
- SDLC Models : Waterfall Model, Spiral and RAD, Prototyping

3. System Planning **[10L] [15M]**

- **Data and fact gathering techniques:** Interviews & Questionnaires, Group discussion, On-site observation, Review of Written Documents.
- Feasibility study and its importance
  - Types of feasibility study- Technical, Economical and Operational
- System Selection plan and proposal Prototyping

4. Systems Design and modeling **[10L] [15M]**

- Logical and physical design
- Systems flowcharts & Data flow diagrams
- CASE tools - Common diagramming conventions and guidelines using DFD and ERD diagrams
- Tools for Structured Analysis : Data Dictionary, Decision Tree, Decision Tables, Structured English

5. User Interface of System **[10L] [15M]**

- User-interface design
  - Guidelines to design Input and Output user-interfaces.
- Graphical interfaces

6. Designing business application system using DFD, ERD, Input and Output layouts **[10L] [15M]**

- Library Management System

- Inventory Management System
- Hospital Management System
- Sales/Purchase System

Reference Books

1. System Analysis and Design Methods, Whitten, Bentaly and Barlow, Galgotia Publication. ***ISBN***-10; 0-07-305233-7
2. System Analysis and Design Elias M. Awad, Galgotia Publication ***ISBN*** 13: 9788175156180.
3. Software Engineering by Roger Pressman ***ISBN***-13: 978-0071267823
4. Software Engineering by YogeshAgarwal ; ***ISBN***-10: 8122416381

'A' Grade NAAC Re-Accredited (3rd Cycle)

North Maharashtra University, Jalgaon

Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 505 - Practical on ASP.NET

w.e.f. 2019-20

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objective: To practically train students in developing web pages using ASP.NET

Practical on ASP.NET

1. Write an ASP .net program that demonstrate use of HTML Controls
2. Write an ASP .net program that demonstrates use of web controls.
3. Write an ASP .net that returns the windows name of your computer and URL of the page that you are visiting.
4. Write an ASP .net program that demonstrates use of Validations Controls.
5. Write an ASP .net program that demonstrates use of Intrinsic Objects.
6. Write an ASP .net program that demonstrate Application and Session Scope Variables using Global.Asax
7. Write an ASP .net program Demonstrate use of Master Pages.
8. Write an ASP .net page that used the connection object to connect the database and display information using datagrid Controls.
9. Demonstrate website navigation controls(sitemap path, treeview, menu) using SiteMap file.
10. Demonstration of ASP.NET objects (HTTPApplicationState, HTTPSessionState)

North Maharashtra University, Jalgaon

Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 506 - Practical on CASE Tool with MS-VISIO and Software Testing

w.e.f. 2019-20

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objective: To practically train students in using CASE tools for designing real time system diagrams.

Study following systems using CASE tool -

1) Library Management System
2) Inventory Management System
3) Hospital Management System
4) Sales System
5) Purchase System
6) Admission System
7) Examination System
8) Logistic Management System
9) Hotel Management System
10) Payroll Management System

Software Testing:

Manual Testing: Data constraints, data integrity, validity, correctness, referential integrity need to be tested for already developed software. Its data entry forms and reports, menu system needs to be tested for various testing parameters. A Test report needs to be prepared by student.

North Maharashtra University, Jalgaon

Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 507 - Field work on IT Project Assessment

w.e.f. 2019-20

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objective: – To understand the issues in implemented IT project by assessing it using research methodology.

FIELD WORK

1. Each student shall have to undergo a field work during 5th Semester

2. In the 5th semester examination student are required to carry out a Field Work individually or by group of two students. It should be compulsorily based on **assessment of any IT project implemented in real time** as mentioned in the point 3. The topic should be decided with consultation and guidance of internal teacher of the Institute. The field work should be necessarily Research oriented, Innovative and Problem solving.

3. The field work should be related to **assessment of any IT project already implemented in real time** such as – e-Commerce websites, e-Governance websites, universities IT services, governments IT services, e-banking systems, railway reservation systems, bus reservation systems, online travel booking systems etc.

4. The student has to write a report based on the actual Field work, get it certified by the concerned Guide/teacher that the fieldwork has been satisfactorily completed and submit TWO typed copies of the same to the Head / Director of the institute /Principal of the college. One copy of the report submitted by the student shall be forwarded to the University by the Institute.

5. Field work shall be strictly based on primary data. The Sample Size shall be minimum 100. The students are encouraged to use advance excel or SPSS software.

6. Field work viva shall be conducted at the end of Semester V

7. Viva Voce for one student shall be of minimum 15 minutes. The Student has to prepare Power Point presentation based on field work to be presented at the time of Viva voce.

8. The field work will carry maximum 100 marks, of which internal teacher shall award marks out of maximum 50 marks on the basis of work done by the student. Remaining marks shall be awarded out of maximum 50 marks by examining the student during Vivavoce, by the External examiner.

Semester - VI

North Maharashtra University, Jalgaon

Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 601 - e-Commerce & m - Commerce

w.e.f. 2019-20

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objective:To impart the knowledge of e-Commerce & m - Commerce among students.

UNIT 1: Introduction to E-Commerce [10L] [15M]

Definition and scope of E-Commerce and M-Commerce, E-Commerce trade cycle, Electronic Markets, Internet Commerce, Benefits and Impacts of E-Commerce.

UNIT 2: Elements of E-Commerce & M-Commerce [10L] [15M]

Various elements, e-visibility, e-shops, Delivery of goods and services, Online payments, After - sales services, Internet E-Commerce security, Basics of M-Commerce, E-Commerce Vs. M-Commerce. Advantages of M-Commerce over e-Commerce.

UNIT 3: EDI and Electronic Payment Systems [10L] [15M]

Introduction and definition of EDI, EDI layered Architecture, EDI technology and standards, EDI communications and transactions, Benefits and applications of EDI with example, Electronic Payment Systems: credit/debit/smart cards, e-credit accounts, e-money.

UNIT 4: Introduction to EC models [10L] [15M]

Inter-organization and intra-organization E-Commerce, E-Commerce Models: B2B, B2C, C2B, C2C, G2C, C2G. Concept and importance of E-Services and M-Services.

UNIT 5: E-Business [10L] [15M]

Introduction to Internet bookshops, Electronic newspapers, Virtual auctions, Online share dealing, e-Governance. Cases of amazon, flipkart and snapdeal.

UNIT 6: E-Security and Legal Issues [10L] [15M]

Security concerns in E-Commerce, Privacy, integrity, authenticity, non-repudiation, confidentiality, SSL, Digital Signatures and fire walls, IT Act 2000,Cyber crimes and cyber laws.

Reference Books

1. Gary Schneider, Electronic Commerce, Thomson Publishing. ***ISBN***-10: 1-4239-0305-6
2. Pandey, Srivastava and Shukla, E-Commerce and its Application, S. Chand ***ISBN***: 9788121928410
3. P.T. Joseph, Electronic Commerce – An Indian Perspective, P.H.I ***ISBN*** 13: 9788120345058
4. Bharat Bhaskar, Electronic Commerce, TMH ***ISBN*** 13: 9781259026843 .
5. Turban, King, Viehland& Lee, Electronic Commerce- A Managerial Perspective,Pearson.
6. Ravi kalakota& A.B. Whinston, Electronic Commerce- a Manager's Guide, Pearson. ***ISBN***:9788177583168
7. Laudon&Traver, e-commerce – Business, Technology, Society. Pearson ISBN13: 9780133938951

North Maharashtra University, Jalgaon

Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 602 - Cloud Computing

w.e.f. 2019-20

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objective:This course will help the students to get familiar with cloud computing fundamentals, architecture, services, implementation and deployment techniques etc.

Unit 1: Introduction to Cloud Computing: [10L] [15M]

Overview, Roots of Cloud Computing, Layers and Types of Cloud, Desired Features of a Cloud, Benefits and Disadvantages of Cloud Computing, Cloud Infrastructure Management, Infrastructure as a Service Providers, Platform as a Service Providers, Challenges and Risks, Assessing the role of Open Standards

Unit 2: Cloud Architecture, Services and Applications: [10L] [15M]

Exploring the Cloud Computing Stack, Connecting to the Cloud, Infrastructure as a Service, Platform as a Service, Saas vs. Paas, Using PaaS Application Frameworks, Software as a Service, Identity as a Service, and Compliance as a Service.

Unit 3: Abstraction and Virtualization [10L] [15M]

Introduction to Virtualization Technologies, Load Balancing and Virtualization, Understanding Hyper visors, Understanding Machine Imaging, Porting Applications, Virtual Machines Provisioning and Manageability Virtual Machine Migration Services, Virtual Machine Provisioning and Migration in Action, Provisioning in the Cloud Context

Unit 4: Managing & Securing the Cloud [10L] [15M]

Administrating the Clouds, Cloud Management Products, Emerging Cloud Management Standards, Securing the Cloud, Securing Data, Establishing Identity and Presence, Storage Area Networks, Disaster Recovery in Clouds

Unit 5: Risk of Cloud computing and Related Cost [10L] [15M]

Risk Assessment and Management – Rosk of Vendor Lock- in – Risk of Loss of control over IT services- Risk of Poor Provisioning – Risk of Multi-tenant environment – Risk failure of cloud provider – SLA risk – security, malware and Internet Attacks – Risk with Application Licensing.

Unit 6:Advanced Topics and Cloud Applications [10L] [15M]

Integration of Private and Public Clouds, Cloud Best Practices, the Web on Amazon Cloud, Hosting Massively Multiplayer Games on Cloud, Content Delivery Networks Using Clouds and Hosting Twitter and Facebook on Cloud

Reference Books

1) Sosinsky B., “Cloud Computing Bible”, Wiley India ***ISBN*** 13: 9788126529803.

2) Buyya R., Broberg J., Goscinski A., “Cloud Computing: Principles and Paradigm”, John Wiley & Sons ***ISBN NO***: 81–7758– 575-4

3) Velte T., Velte A., Elsenpeter R., “Cloud Computing – A practical Approach”, Tata McGraw-Hill. / ***ISBN*** 13: 9780070683518

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'A' Grade NAAC Re-Accredited (3rd Cycle)

North Maharashtra University, Jalgaon

Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 603 - Android Application Development

w.e.f. 2019-20

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objective:The use of mobile communication and android based applications are increasing day by day. It is therefore necessary for students to know that how mobile communication works and how to build mobile apps for android operating system. This course covers the necessary concepts which are required to understand mobile communication and to develop Android Applications.

Unit 1:Introduction to Mobile Computing and Android [10L] [15M]

1.1 Mobile Computing: Introduction to Mobile Computing, applications, limitations, and architecture, Characteristics of Mobile Communication.

1.2 Cellular Overview: Cellular networks, Cellular concept, location management, Handoffs noise and its effects on mobile.

1.3 Understanding GSM and CDMA.

1.4 Overview of Android

1.5 Android for mobile apps development

1.6 Environment setup for Android apps Development

1.7 Framework - Android- SDK, Eclipse.

1.8 Architecture of Android, Libraries.

1.9 Software development kit.

Unit 2: Designing the user interface [10L] [15M]

2.1 Design criteria for Android Application: Hardware Design Consideration, Design Demands For Android application, Intent, Activity, Activity Lifecycle and Manifest

2.2 Introducing views and view groups,

2.2 Introducing layouts, creating new views,

2.4 Creating and using Menus

Unit 3: Database Issues [10L] [15M]

3.1 Hoarding techniques

3.2 Caching invalidation mechanisms

3.3 Client server computing with adaptation,

3.4 Power-aware and context-aware computing,

3.5 Transactional models, query processing, recovery, and quality of service issues.

Unit 4: Talking with Servers (Web services) [10L] [15M]

4.1 Introduction to web services

4.2 Restfull Web Service

4.3 Soap Web Service

4.4 JSON parsing

4.5 XML parsing

Unit 5: Data Storage, retrieval and Sharing **[10L] [15M]**

5.1 File system in android
5.2 Internal and external storage
5.3 Saving and loading files
5.4 File Management tools

Unit 6: Wireless LANs and Application overview **[10L] [15M]**

6.1 WLAN
6.2 Wireless applications
6.3 Mac issues (Hidden and exposed terminals, near and far terminals),
6.4 Mobile IP
6.5 Mobile ad-hoc networks (MANET)
6.6 Disconnected operations
6.7 Mobile agents.

Reference Books

1) Mobile Communications J. Schiller, Addition Wesley Publication ***ISBN*** 0 321 12381 6
2) GSM System Engineering A.Mehrotra, Addition Wesley Publication ***SBN*** 0-201-42293-X.
3) Understanding WAP M. Heijden, M. Taylor, Artech House Publication ***SBN*** 0470849061
4) Professional Android™ Application Development Wrox Publications, Reto Meier ***ISBN***: 978-0-470-34471-2

North Maharashtra University, Jalgaon

Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 604 - Server Side Scripting using PHP

w.e.f. 2019-20

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objective: To impart the knowledge of web development in students in by using PHP

Unit – 1 Introduction to PHP [10L][15M]

- **1.1** Web architecture, web Server (xamp Server, apache server)
- **1.2** Installation and Configuration of PHP (php.ini, httpd.conf)
- **1.3** History, Features & Drawbacks of PHP

Unit - 2 The Basics of PHP [10L][15M]

- **2.1** Introduction to PHP
- **2.2** Data types in PHP
- **2.3** Lexical Structure of PHP
  - **2.3.1** Structure & Syntax of PHP
  - **2.3.2** PHP with HTML
  - **2.3.3** Comments
  - **2.3.4** Variables
  - **2.3.5** Literals
  - **2.3.6** Operator
  - **2.3.7** Operator Precedence
- **2.4** Flow Control Statements
  - **2.4.1** Conditional Statements
  - **2.4.2** Looping Statements
  - **2.4.3** Exit, Return, Die, Include and Require Statements

Unit – 3 Array, Function and String [10L][15M]

- **3.1** Introduction to Array
  - **3.1.1** Index Vs Associative Array
  - **3.1.2** Multidimensional Array
  - **3.1.3** Different array function in PHP
- **3.2** Introduction to Function
  - **3.2.1** Defining and Calling a function
  - **3.2.2** Scope of variables in function
  - **3.2.3** Function Parameters
  - **3.2.4** Returning Values from a function
  - **3.2.5** Recursive Functions
- **3.3** Types of strings in PHP
- **3.4** Printing functions
- **3.5** Comparing strings
- **3.6** Manipulating and Searching strings
- **3.7** Regular Expressions

Unit – 4 Object-Oriented PHP [10L][15M]

- **4.1** Introduction and Benefits of OOPs
- **4.2** Creating a Class
- **4.3** Creating an Object

4.3.1 Adding a Method
4.3.2 Adding a Properties
4.3.3 Visibility (Public, Private and Protected)

4.4 Constructor and Destructors
4.5 Inheritance (Extending a class)
4.6 Abstract classes, Final classes
4.7 Interfaces
4.8 Exception handling

Unit - 5 **Web Techniques** **[10L][15M]**

5.1 Introduction
5.2 HTTP Basics
5.3 Processing Forms
5.3.1 Using PHP $_GET
5.3.2 Using PHP $_POST
5.3.3 GET vs. POST
5.3.4 File Uploads
5.3.5 Form Validation
5.4 Maintaining State
5.4.1 Cookies
5.4.2 Sessions

Unit - 6 **PHP with MySQL** **[10L][15M]**

Introduction to MySQL
Interaction between PHP and MySQL
Connecting to a Database
Execute SQL Statements

Reference Books

1. Beginning PHP and MySQL, 3rd Ed., W. Jason Gilmore, A press Publication.
2. PHP 5.1 for Beginners, Ivan Bayross and Sharnam Shah, SPD Publication
3. Beginning PHP5 Dave Mercer et al. Wrox Press
4. PHP for Beginners [Book] / auth. Ivan Bayross, Sharnam Shah, THE X Team. - [s.l.]: SPD.

Websites:

1. http://www.php.net.in
2. http://www.w3c.org

North Maharashtra University, Jalgaon

Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 605 - Practical on Android & PHP

w.e.f. 2019-20

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objective: To practically train students in developing Mobile application and web pages using PHP

Practical on Android

1. Installation and setup of java development kit (JDK), setup android SDK, setup eclipse IDE, setup android development tools (ADT) plugins, create android virtual device.
2. Create “Hello World” application. That will display “Hello World” in the middle of the screen using TextView Widget in the red color.
3. Create Registration page to demonstration of Basic widgets available in android.
4. Create sample application with login module.(Check username and password) On successful login, Change TextView “Login Successful”. And on failing login, alert user using Toast “Login fail”.
5. Create an application for demonstration of Scroll view in android.
6. Create login application where you will have to validate username and passwords Till the username and password is not validated, login button should remain disabled.

Practical on PHP

1. Write PHP scripts that demonstrate fundamentals PHP.
2. Write PHP script that will display grade based on criteria given below using the marks obtained in Examination.
    a. Distinction (70 and above)
    b. First Class (60 - 69)
    c. Pass (40 - 59)
    d. Fail (below 40)
3. Write a PHP script to demonstrate different String functions.
4. Write a PHP script to Demonstrate OOPS Concept in PHP.
5. Write a PHP script to demonstrate Form Data Handling using Get and Post methods.
6. Design a database in MYSQL. Create table in database. Store, Update, Delete and Retrieve data from the table. Display the data from the table.
7. Write a PHP script to store, retrieve and delete cookies on your local machine.
8. Write a PHP script to store, retrieve and delete data using session variables.

'A' Grade NAAC Re-Accredited (3rd Cycle)

North Maharashtra University, Jalgaon

Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 606 - Practical on Employability Skills

w.e.f. 2019-20

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objective: To practically train students in developing required employability skills.

1. Resume Designing with individual career objective
2. Group Discussion on current topics
3. Short Power point Presentations on one's behavioral qualities (10 min)
4. System model Presentation
5. Business Email Writing /Covering letter
6. Designing a weekly calendar (To-do list with deadlines)
7. Personal Interview-Domain based
8. Personal Interview-Behavioral
9. Facing a telephonic interview –Executing telephonic Etiquettes

'A' Grade NAAC Re-Accredited (3rd Cycle)

North Maharashtra University, Jalgaon

Faculty of Science and Technology

BACHELOR OF COMPUTER APPLICATIONS (BCA)

BCA 607 - Project Report & Viva

w.e.f. 2019-20

Total Lectures: 60

[Total Marks: 60 External + 40 Internal =100 Marks]

Objective: – To prepare students to use applications of the theory and practical learned during the course.

PROJECT WORK

1. Each student shall have to carry out the project work based on System Development which may include Application Program, Database Management System, Web Based Application, Smart phone Application, System Tools, Network System Application, etc. A project may be carried out at any outside organization or on a sub system of an organization.
2. The project work should be carried out individually. No group work is allowed in the Project work. The project title should not be repeated.
3. The topic of the project should be decided with the consultation & guidance of an internal guide-teacher of the institute/college. The project should be necessarily innovative and problem solving. No teacher shall be entrusted with more than 15 students for guidance and supervision.
4. The student should clearly mention the need of project , database(s), files required for the project, DFD , Normalization, ERD, software used for the project, reasons for selection of that software, inputs required, outputs produced etc.
5. The application should be menu driven and should provide the facilities of storage of data, modifications in existing data, deletion of unwanted data, and viewing of data.
6. The student has to write a report based on the actual work undertaken during the vacations at the specific selected enterprise/ organization or sub system and get it certified by the concerned teacher that the Project report has been satisfactorily completed and submit TWO typed copies of the same to the Head / Director of the institute /Principal of the college.
7. One copy of the report submitted by the student shall be forwarded to the University by the Institute.
8. No student will be permitted to appear for Viva-Voce examinations, unless and until the project report is submitted within the stipulated time.

North Maharashtra University, Jalgaon

NAAC Re-accredited 'A' Grade University

FACULTY OF COMMERCE AND MANAGEMENT

Structure, Equivalence and Syllabus

of

Master in Management Studies (Computer Management)

MMS (CM)

(Semester 60-40 Pattern)

w.e.f AY 2017-18

North Maharashtra University, Jalgaon

(NAAC Reaccredited 'A' Grade University)

FACULTY OF COMMERCE and MANAGEMENT

STRUCTURE OF MASTER IN MANAGEMENT STUDIES M.M.S.(C.M.)

w.e.f. AY 2017-18

MMS-CM –I W.e.f A.Y. 2017-18			
Semester I		**Semester II**	
Code	**Subject**	**Code**	**Subject**
1.1	Principles of Management	2.1	Communication Skills
1.2	Financial Accounting	2.2	Management Information System
1.3	Web Designing and Web Authoring Tools	2.3	System Analysis and Design
1.4	ICT fundamentals & Office Automation	2.4	RDBMS
1.5	Programming in C	2.5	Object Oriented Programming using C++
1.6	Lab I-Practical on Tally ERP & Web Designing	2.6	Lab III-Practical on RDBMS
1.7	Lab II-Practical on Office Automation & C Programming	2.7	Lab IV-Practical on C++
MMS-CM –II W.e.f A.Y. 2018-19			
Semester III		**Semester IV**	
Code	**Subject**	**Code**	**Subject**
3.1	CRM & Digital Marketing	4.1	Human Resource Management
3.2	Cyber Security and IT Act	4.2	E-commerce and M-commerce
3.3	Graphics & Animation	4.3	Internet Computing with ASP.NET
3.4	Web Scripting with PHP and MySQL	4.4	Java Programming
3.5	C#.Net Programming	4.5	Project Work
3.6	Lab V-Practical on Graphics & Animation & PHP	4.6	Lab VII-Practical on ASP.NET
3.7	Lab VI-Practical on C#.NET Programming	4.7	Lab VIII-Practical on Java Programming

North Maharashtra University, Jalgaon

(NAAC Reaccredited 'A' Grade University)

FACULTY OF COMMERCE and MANAGEMENT

STRUCTURE OF MASTER IN MANAGEMENT STUDIES(M.M.S.(C.M.)

Semester-I and II											
Paper	Semester-I	Credit	Maximum marks			Paper	Semester-II	Credit	Maximum marks		
			Int.	Ext.	Total				Int.	Ext.	Total
1.1	Principles of Management	4	40	60	100	2.1	Communication Skills	4	40	60	100
1.2	Financial Accounting	4	40	60	100	2.2	Management Information System	4	40	60	100
1.3	Web Designing and Web Authoring Tools	4	40	60	100	2.3	System Analysis and Design	4	40	60	100
1.4	ICT fundamentals & Office Automation	4	40	60	100	2.4	RDBMS	4	40	60	100
1.5	Programming in C	4	40	60	100	2.5	Object Oriented Programming using C++	4	40	60	100
1.6	Lab I-Practical on Tally ERP & Web Designing	4	40	60	100	2.6	Lab III-Practical on RDBMS	4	40	60	100
1.7	Lab II-Practical on Office Automation & C Programming	4	40	60	100	2.7	Lab IV-Practical on C++	4	40	60	100
Total Maximum Marks		**28**	**280**	**420**	**700**	**Total Maximum Marks**		**28**	**280**	**420**	**700**

Semester-III and IV											
Paper	Semester-III	Credit	Maximum marks			Paper	Semester-IV	Credit	Maximum marks		
			Int.	Ext.	Total				Int.	Ext.	Total
3.1	CRM & Digital Marketing	4	40	60	100	4.1	Human Resource Management	4	40	60	100
3.2	Cyber Security and IT Act	4	40	60	100	4.2	E-commerce and M-commerce	4	40	60	100
3.3	Graphics & Animation	4	40	60	100	4.3	Internet Computing with ASP.NET	4	40	60	100
3.4	Web Scripting with PHP and MySQL	4	40	60	100	4.4	Java Programming	4	40	60	100
3.5	C#.NET Programming	4	40	60	100	4.5	Project Work	4	40	60	100
3.6	Lab V-Practical on Graphics & Animation & PHP	4	40	60	100	4.6	Lab VII-Practical on ASP.NET	4	40	60	100
3.7	Lab VI-Practical on C#.Net Programming	4	40	60	100	4.7	Lab VIII-Practical on Java Programming	4	40	60	100
Total Maximum Marks		**28**	**280**	**420**	**700**	**Total Maximum Marks**		**28**		**420**	**700**

North Maharashtra University, Jalgaon

(NAAC Reaccredited 'A' Grade University)

FACULTY OF COMMERCE and MANAGEMENT

STRUCTURE OF MASTER IN MANAGEMENT STUDIES M.M.S (C.M.)

W.E.F.A.Y. 2017-18

1. TITLE OF THE DEGREE

This degree shall be titled as Master in Management Studies (Computer Management) i.e. MMS (CM). This new curriculum shall be effective from Academic year 2017-18.

2. OBJECTIVES

The main objective of MMS(CM) is to develop future managers/software developers/office support professionals, who would meet, the dynamic needs of the industry in a competitive and challenging environment. The program aims at providing expertise to students in different office support system and software development area.

The broad objectives of the Program are:

i. To equip the students with requisite knowledge, skills and right attitude necessary to provide effective software development skills in a global environment.

ii. To prepare students for respectable career in the Software Design, Development & Testing. Also in Software Support, e-commerce, e-business, e-banking, eservices, e-governance etc. Or in business management domain where management is augmented by information communication technology.

iii. To develop inter-twining competence in the field of Commerce and Management, Computing Skill and Computational Tools.

3. DURATION

The regular Full Time Course shall be of 2 Years duration; comprising of 4 Semesters through Theory papers, Practical, Project report, Viva-voce, and such other Continuous Evaluation Systems as may be prescribed, in this respect, from time to time.

4. ELIGIBILITY FOR ADMISSION

As per admission rules framed by the North Maharashtra University, Jalgaon

5. PATTERN

5.1. The suggested curriculum comprises 28 papers.

5.2. Each semester will have 7 papers of 4 credits each, thus comprising 28 credits for each Semester that is 112 credits for whole MMS (CM) Degree Course

5.3. One credit for the theory course shall be of the 15 clock hours (Each course being taught in the semester will be of 4 credits) that is each course will be of 60 hours.

5.4. Continuous evaluation of the students shall comprise the 60+40 pattern; where every paper of 100 marks (4 credits), shall be divided as External evaluation of 60 marks and internal continuous assessment of 40 marks.

5.5. 4 credits shall be awarded to the 4.5 Project Report and Viva-Voce. The marks and the credits will be allotted in IV Semester.

5.6. Academic calendar showing dates of commencement and end of teaching, internal assessment tests shall be duly notified before commencement of each semester every year by the Institute/College.

5.7. The external assessment shall be based on external written examination to be conducted by the University at the end of each semester.

5.8. The student shall not be allowed to appear for the semester examination unless the Head/Director of the Department/Institution certifies completion of internal work, regularity, practical etc. The institution / Department shall submit alongwith this certificate Internal marks to 'The Director, Examination and Evaluation' of the University.

6. Evaluation of the student:

6.1. The evaluation of the student shall be divided into two parts viz. Internal Assessment and Semester examination with a weightage in the ratio of 40:60.

6.2. Standard of passing –

6.2.1. In order to pass the examination, the candidate has to obtain at least 40% marks for each head separately, that is 24 marks out of 60 (External) & 16 marks out of 40 marks (Internal) for all courses.

6.2.2. Minimum marks for passing the Lab and Project Report and Viva Voce i.e. the marks obtained in internal examination and external Viva Voce shall be 50% separately.

6.3. The distribution of marks for each theory paper of 4 credits at term (Semester) end examination and for continuous internal assessment shall be as follows:

Theory Examination	**Maximum marks**
Internal assessment	40
External assessment	60
Total marks	**100**

6.4. **Internal Assessment:**

6.4.1.For the internal assessment, 40 marks shall be assigned which includes:

Heads	Marks	Evaluating Authority
Internal test-I	10	Concerned Faculty
Internal test-II	10	
Attendance, Behavior and classroom participation.	10	
Assignments	10	
Total marks	**40**	

6.4.1.1. Two internal tests of 10 Marks each shall be conducted by the subject teacher. The duration of the each test will be of 30 minutes.

6.4.1.2. Ten Marks for continuous Evaluation through regular Attendance, behavior and classroom participation,

6.4.1.3. Ten Marks for Classroom Paper Presentation, Special Assignments, Research Paper Presentations, Publications in Journals, Practical (Computer related courses), Presentations of software, Group Discussions, Book Review, Active participation in activities, Visit to Business/software Exhibition etc. In related subjects (at least one activity has to be completed by the student per semester per paper to be supervised and guided by the concerned subject teacher).

6.4.2. The marks for each test shall be displayed on notice board within 15 days of conducting the test.

6.4.3. It is mandatory to show the answer sheets of all tests to the students on demand.

6.5. **Semester examination:**

6.5.1. The Semester examination for 60 marks per subject would be held after completion of teaching for the semester and as per Timetable declared by North Maharashtra University.

6.5.2. Each theory paper comprising of 60 marks shall be of three hours duration.

7. Grades:

7.1. Marks for each course would be converted into grade points as per **Seven-Point** grading scale as stated in the following table.

Table 1 Table Showing Conversion of Marks into grade points

Marks Obtained	Grade	Equivalent Grade points
75 to 100	O : Outstanding	6
65 to 74	A : Very Good	5
55 to 64	B : Good	4
50 to 54	C : Average	3
45 to 49	D : Satisfactory	2
40 to 44	E : Pass	1
0 to 39	F : Fail	0

7.2. Every paper carries maximum of 6 grade points. Similarly, each paper carries 4 credit points. Thus, each paper carries maximum of 24 CR x GP points.

7.3. One semester carries 7 papers of 24 CR x GP points each. Thus, every semester carries maximum of 168 CR x GP points.

7.4. The MMS(CM)programme consists of 4 semesters, each carrying 168 CR x GP points. Thus, The MMS(CM) programme in all carries maximum of 672 CR x GP points.

7.5. The grade point will be given on the basis of total marks (sum of mark obtained in internal assessment and Semester examination) obtained by a student in a subject.

7.6. The CR x GP points earned in each course shall be calculated as –

Total CR x GP points = Grade points obtained (vide Table-1) x Credits for the course

7.7. Semester Grade Point Average (SGPA) –

7.7.1. The performance of a student in a semester is indicated by a number called SGPA. SGPA is the weighted average of the grade points obtained in all courses registered by the student during the semester. It shall be calculated as follows-

$$SGPA = \frac{\sum_{i=1}^{n} C_i p_i}{\sum_{i=1}^{n} C_i} = \frac{\sum_{i=1}^{n} 4p_i}{28}$$

Where,

C_i = the maximum number of credits prescribed for the i^{th} course of a semester for which SGPA is to be calculated

p_i = grade point earned in the i^{th} course

i = 1,2,3……n represent the number of courses in which a student is registered in the concerned semester.

That is,

$$SGPA = \frac{\textbf{Total CR x GP points earned for the Semester}}{\textbf{Total Credit points for the Semester}}$$

SGPA is rounded up to two decimal places.

7.8. **Final result**

Up-to-date assessment of the overall performance of a student from the time of his/her first registration is obtained by calculating a number called Cumulative Grade Point Average (CGPA), which is a weighted average of the grade points obtained in all courses registered by the student since he/she has been admitted to the **MMS (CM)** course.

$$CGPA = \frac{\sum_{j=1}^{m} C_j p_j}{\sum_{j=1}^{m} C_j}$$

Where

C_j= the number of credits earned in the jth course up to the semester

p_j = grade point earned in the jth course.

A letter grade lower than E (i.e. grade point < 1) in a course shall not be taken into consideration for the calculation of CGPA

j= 1, 2,3……m represent the number of courses in which a student is registered up-to the semester for which the CGPA is to be calculated

The CGPA is rounded up to two decimal places.

7.9. The final grade earned shall be as per Table given below-

Final grade to be awarded and equivalent percentage of marks of the candidate based on his/her CGPA

CGPA Value	Final Grade to be awarded to the candidate	Equivalent range for percentage of marks	Formula for obtaining equivalent approximate percentage of marks
5.50-6.00	0: Outstanding	75-100	$75 + \left\{\frac{(CGPA - 5.5)}{0.02}\right\}$
4.50-5.49	A: Very Good	65-74	$65 + \left\{\frac{(CGPA - 4.5)}{0.02}\right\}$
3.50-4.49	B: Good	55-64	$55 + \left\{\frac{(CGPA - 3.5)}{0.02}\right\}$
2.50-3.49	C: Average	50-54	$50 + \left\{\frac{(CGPA - 2.5)}{0.02}\right\}$
1.50-2.49	D: Satisfactory	45-49	$45 + \left\{\frac{(CGPA - 1.5)}{0.02}\right\}$
1.00-1.49	E: Pass	40-44	$40 + \left\{\frac{(CGPA - 1.0)}{0.02}\right\}$
0.00-0.99	F: Fail	00-39	Not Applicable

8. PASSING STANDARDS

8.1. In order to get through the examination, a candidate shall have to secure minimum of 40% of the marks allotted to each subject(i.e. 16 marks out of 40 marks (Internal) and 24 marks out of 60 (External) for all subjects).

8.2. The student shall be allowed to keep the terms of the next year as per the University rules.

9. GUIDELINES FOR TEACHING

9.1. There shall be atleast 60 lecture hours (including internal assessment) per semester per course. The duration of the lectures shall be 60 minutes each. There shall be atleast 15 weeks of teaching before commencement of examination of respective semester.

9.2. There shall be 4 lectures / week / paper.

9.3. The semester workload is balanced with 7 full papers of 100 marks each / semester. Thus, 420 lectures hours are considered for teaching sessions and continuous assessment.

9.4. Self-study shall be natural requirement beside the time table. The Faculty will have to exert a little extra for cultivating reading habits amongst the students.

9.5. The teaching method shall comprise a mix of Lectures, Practical, demos, Seminars, Group discussions, Brain storming, Game playing, Interactions with Executives etc. so as to prepare the students to face the global challenges as business executive for this Audio-visual aids and Practical field work should be a major source of acquiring knowledge.

9.6. Institute may use a combination of various teaching methods such as cases, projects, independent studies, computer aided instructions, group discussions, lectures, seminars, presentations by students, and lectures by guest speakers from industry and government, workshops. The case method/ software demonstration is generally seen as a most effective tool, and it should be included as part of the curriculum teaching as far as possible. This sharpens analytical skills of students and helps analyze problems from multi-functional perspectives. Case study method preferably shall be used wherever possible for the better understanding of the students.

9.7. Each institute shall issue annual souvenir as well as a placement brochure separately to each student and a copy of the same shall be submitted to the university before the end of the year.

10. GUIDELINES FOR PROJECT

10.1. Each student will have to develop software individually.

10.2. In the Fourth semester examination, student shall submit “Project Report”. The topic should be decided with consultation and guidance of internal guide of the Institute/college.

10.3. The institute / College shall submit the detailed list of candidate to the University with Project Titles, name of the organization, internal guide and functional elective on or before 31st January of the second year.

10.4. Teacher shall not be entrusted/allowed to take more than 15 students for guidance and supervision of project report.

10.5. The student has to write a report based on the actual work of software development, get it certified by the concerned teacher that the Project report has been satisfactorily completed and shall submit one typed copy of the same to the Head / Director of the institute along with 1 CD of Project Report. In order to save the paper, both side printing is allowed.

10.6. It is responsibility of concerned Institute to check the authenticity of Project.

10.7. CD submitted by the student shall be forwarded to the University by the Institute before the deadline mentioned in University circular.

10.8. Project viva voce shall be conducted at the end of Semester IV.

10.9. The project work will carry a maximum 100 marks, of which internal teacher shall give marks out 40 on the basis of project work done by the student as a internal assessment. Viva voce of 60 marks will be conducted by the panel of the external examiners to be appointed by the University.

10.10. No students will be permitted to appear for Viva-voce and Semester IV examinations, unless and until (s) he submits the project report before the stipulated time.

11. STRUCTURE OF THE QUESTION PAPER

11.1. Each question paper shall be of 60 marks and of 3 hours duration.

11.2. **For Theory papers** there will be 2 Sections. In section I, a candidate shall be required to answer 3 questions out of 5 questions and in section II, student shall be required to answer 2 questions out of 3 questions. All questions shall carry equal marks i.e. 12 marks each.

11.3. **For Lab,** the student will have to perform the assigned practical within of 3 hours.

12. ELIGIBILITY OF THE FACULTY

Strictly As per norms fixed by UGC (www.ugc.ac.in) and North Maharashtra University, Jalgaon (www.nmu.ac.in)

For all Commerce & Management related subjects :

First Class MBA or equivalent.

For Computer Related subjects:

First Class MCM/MBM(CM)/MMS(CM)/MCA/ MBA(IT & Systems)

North Maharashtra University, Jalgaon

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FACULTY OF COMMERCE and MANAGEMENT

EQUIVALENCE OF OLD AND NEW COURSES FOR

MASTER IN MANAGEMENT STUDIES (COMPUTER MANAGEMENT) M.M.S.(CM)

Old Paper	Old courses (w.e.f.- July 2014) **MBM (CM)**	New Paper	New courses (w.e.f.- AY 2017-18) **MMS(CM)**
Semester-I			
1.1	ICT Fundamentals & Operating System	1.4	ICT Fundamentals and Office Automation
1.2	Web Designing and Web Tools	1.3	Web Designing and Web Authoring Tools
1.3	Programming concepts using C++	1.5	Programming in C
1.4	Financial Accounting for Manager (Tally ERP)	1.2	Financial Accounting
1.5	Business Management	1.1	Principles of Management
1.6	Lab -I (Based on 1.1 & 1.2)	1.6	Lab I-Practical on Tally ERP & Web Designing
1.7	Lab – II (Based on 1.3 & 1.4)	1.7	Lab II- Practical on Office Automation and C Programming
Semester – II			
2.1	Object Oriented Programming using C++	2.5	Object Oriented Programming using C++
2.1	RDBMS with MS-SQL Server	2.4	RDBMS
2.3	Graphics and Animation	2.1	Communication Skills
2.4	Software Engineering and Project Management	2.3	System Analysis and Design
2.5	Management Information System & ERP	2.2	Management Information System
2.6	Lab – III (Based on 2.1 & 2.2)	2.6	Lab III- Practical on RDBMS
2.7	Lab – IV (Based on 2.3 & 2.4)	2.7	Lab III- Practical on C++
Semester – III			
3.1	Database Administration with Oracle & D2K	3.2	Cyber Security and IT Act
3.2	VB.Net	3.5	C#.Net Programming
3.3	Advance Graphics and Animation	3.3	Graphics and Animation
3.4	E-Commerce and Website Management	3.4	Web Scripting with PHP and MySQL
3.5	ICT Applications in Business	3.1	CRM & Digital Marketing
3.6	Lab – V (Based on 3.1 & 3.2)	3.7	Lab VI- Practical on C#.Net Programming
3.7	Lab – VI (Based on 3.3 & 3.4)	3.6	Lab V- Practical on Graphics and Animation & PHP
Semester – IV			
4.1	ASP.Net	4.3	Internet Computing with ASP.NET
4.2	Scripting Languages	4.2	E-commerce and M-commerce
4.3	Java Programming language	4.4	Java Programming
4.4	Organization Behavior and HRM	4.1	Human Resource Management
4.5	Lab – VI (Based on 4.1 & 4.2)	4.6	Lab VII- Practical on ASP.Net
4.6	Lab – VIII (Based on 4.3 & 4.4)	4.7	Lab VIII- Practical on Java Programming
4.7	Project Work	4.5	Project Work

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FACULTY OF COMMERCE & MANAGEMENT

MMS (Computer Management) Semester-I

w.e.f. 2017-18

1.1 Principles of Management

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective: To acquaint the students with the basic Business Management concept & process.

UNIT 1: Nature and Development of Management **[10]**

a. Management: Concept, Nature, Importance
b. Evolution of Management: Introduction to Scientific Management by Taylor, Administrative Management by Fayol, Contribution of Peter Drucker

UNIT 2: Management Functions – I **[10]**

a. Functions of Management, Levels of Management, Managerial Skills & roles
b. Planning: Nature, Scope, Objective and Significances of Planning, Key factors to planning, Types of Plans, Process of Planning.
c. Decision Making – Types of Decision, decision making processes, Individual Vs Group decision making, Information Technology & Decision Making

UNIT 3: Management Functions - II **[10]**

a. Organizing: Concept, Organization Structure, Forms of Organizational Structure
b. Departmentation- need, importance & bases of Departmentation, Span of Control Determination of factors affecting Span of Control, Delegation of Authority, Authority & Responsibility, Line & Staff, and Formal & Informal Organization.
c. Staffing: Concept, Manpower Planning.

UNIT 4: Management Functions - III **[10]**

a. Directing: Concept, Direction and Supervision, Importance of Directing, Principles of Directing.
b. Coordination – Need & Importance, Coordination & Cooperation,
c. Controlling: Concept, Types of control.

UNIT 5: Management Practices **[10]**

a. Concepts of – Kaizen, Six Sigma, Theory Z, SWOT analysis, Business Process Outsourcing, Knowledge management.

UNIT 6: Organizational Communication Skills - I **[10]**

b. Meaning & Importance of Organizational Communication

c. Internal communication: Notice, Circular, Memo.
d. External Communication – Enquiries, Quotations, Bank & Financial Institutions
e. Letter writing: Layout of Business letter, types of layouts, Essentials of Good Business Letters, Attitude in Business writing
f. Purpose of letters: Resume, Application

REFERENCE BOOKS:

1. Koontz, “Principles Of Management”, 1st Edition, Tata McGraw Hill, 2008
2. Stoner , Freeman & Gilbert Jr, “Management”, 6th Edition, Prentice Hall Of India
3. Robbins & Coulter, “Management”, 8th Edition, Prentice Hall Of India
4. Robbins S.P And Decenzo David A, “Fundamentals Of Management : Essential Concept And Applications”,. 5th Edition, Pearson Education
5. L.M.Prasad, “Principals Of Management”, Himalaya Publications
6. Dr. Manmohan Prasad, “Management: Concepts & Practices”, Himalaya Publications
7. Weihrich Heinz And Koontz Harold, “Management: A Global And Entrepreneurial Perspective”, 12th Edition, McGraw Hill, 2008
8. Penrose / Rasberry / Myers, “Business Communication for Managers”, Cenage Learning.
9. Raman & Singh, “Business Communication”, Oxford Publication.
10. C.S. Raydu, “Business Communication”, Himalaya Publishing House

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FACULTY OF COMMERCE & MANAGEMENT

MMS (Computer Management) Semester-I

w.e.f. 2017-18

1.2 Financial Accounting

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective: To prepare students about important financial accounting concepts and understand usage of Tally ERP software.

UNIT 1: Basic Concepts **[10]**

a. Accounting Concepts & Conventions.
b. Basic Accounting Terms.

UNIT 2: Elements of Accounts **[10]**

a. Types of Accounts- Personal, Impersonal: Real and Nominal
b. Rules for recording journal entries for different types of accounts
c. Journals, Ledgers, Trial Balance, Cash Book – Cash Book with Cash and Bank Column
d. Adjustment Entries and Final Account of Sole Traders

UNIT 3: Rectification of Errors **[10]**

a. Introduction
b. Types of Errors- Errors of Omission, Commission, Error of Principles, Compensating error
c. Suspense Account

UNIT 4: Bank Reconciliation Statement **[10]**

a. Need, Causes of Disagreement, Preparation of Bank Reconciliation Statement

UNIT 5: Tally Accounting Package **[10]**

a) Introduction To Tally :

a. Features Of Tally Software (ERP)
b. Starting Tally - Gateway Of Tally And Exit From Tally
c. Company Creation in Tally, Saving the Company Profile, Alteration / Deletion Of Company, Selection of Company
d. Account Groups and Ledgers
e. Hierarchy Of Account Groups And Ledgers, Reserved Account Groups,
f. Account Groups Of Balance Sheet – Account Groups Of Liabilities & Assets
g. Account Groups Of Profit & Loss Account - Account Groups Of Direct Income And Direct Expenses Apart From Sale And Purchases, Indirect Income And Indirect Expenses

h. Account Masters - Account Groups Creation and Account Ledgers Creation ix) Feeding of Opening Balances
i. Alteration / Deletion Of Account Master Records
xi) Feeding of Closing Stock Value

b) Tally: Voucher Entry

a. Types Of Vouchers In Tally - Contra, Receipts, Payments And Journal
b. Entering Account Voucher - Sales, Purchases, Debit Note, Credit Note, Incomes, Expenses, Voucher Modification, Saving The Voucher
c. Voucher Alteration, Deletion and Cancellation, Single Mode Voucher Entries, Account
d. Voucher Printing - Online Voucher Printing, Multi Voucher Printing iv) Displaying Voucher List, Day Book, Ledger v) Extracting Daybook Summaries

c) Tally: Trial Balance And Final Accounts

a. Extracting Detailed Trial Balance, Exploded Trial Balance And Ledger wise Trial Balance
b. Extracting Balance Sheet - Primary Balance Sheet , Detailed Balance Sheet
c. Closing Stock Value Entry through Balance Sheet
d. Extracting Profit And Loss Account - Detailed Form and Vertical Form,
e. Extracting Income And Expenditure Statements for Non-Trading Units

UNIT 6: Introduction to Stock Management (Inventory) [10]

a. Stock Group, Stock Category, Stock Items, Multiple Warehouses,
b. Purchase Order and Sales Order

REFERENCE BOOKS:

1. S.N & S.K Maheshwari, “Fundamentals of Accounting”, Vikas Publications
2. Shukla & Grewal, “Advanced Accountancy”, Sultan Chand & Sons
3. Tulsian, “Advanced Accountancy”, Tata McGraw Hill
4. Ashok Banerjee, “Financial Accounting”, Excel Books
5. A. K. & K. K. Nandani, “Implementing Tally 9, Comprehensive Guide”, BPB Publishers, New Dehli
6. “Tally 9.2” ‗ Comdex Publisher
7. S. H. Sharma ,Siddhant, “Practical Approach towards Tally 8.1 & 9”, Prakashan, Aurangabad

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FACULTY OF COMMERCE & MANAGEMENT

MMS (Computer Management) Semester-I

w.e.f. 2017-18

1.3 Web Designing and Web Authoring Tools

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective: To prepare students in web designing using various web tools.

UNIT 1: Internet **[10]**

a. What is Internet, History of Internet, Advantage & Disadvantages of Internet, Network Topologies
b. Routers, Gateways, Firewall, ISP, TCP/IP
c. Transmission Media: Co-axial Cable, Twisted Pair Cable, Fiber Optics
d. Types of web sites, Domain types, Different types of Browsers
e. ISO-OSI seven layer model

UNIT 2: HTML **[10]**

a. Introduction: Structure of HTML
b. HTML Tags: Text formatting tags, Marquee tags, Changing Background with color and images, Anchor-Internal and External Linking, Image tags, List
c. Browser compatibility issues

UNIT 3: Working with Tables, Graphics & Color **[10]**

a. Understanding table elements, Formatting Tables
b. Understanding graphics file formats, Using<img>, working with images and color, applying background properties

UNIT 4: Planning Site Navigation, frames and forms **[10]**

a. Create usable Navigation, Text-Based Navigation, Contextual linking,
b. Using Graphics for navigation & Linking
c. Designing effective Frames, Working with Framesets
d. Understanding Form Syntax, Creating input objects-<form>, <input>, <select>, <option>,
e. <textarea>, <button>, <label>, <optgroup>

UNIT 5: CSS (Cascading Style Sheets) and Working with Frames and Forms **[10]**

a. Style & Types of styles-Internal/External Style Sheets.
b. Using <Div> and <Span>
c. CSS Font Properties, Creating Font and Text Properties Style Sheets
d. Controlling color & image properties with css

UNIT 6: Web Designing Tools and framework **[10]**

a. **Dream Weaver**:
    a. Introduction & Dreamweaver Interface
    b. Adding content to site: Creating web pages, defining sites, Page Properties, using design template, inserting/presenting text, list, horizontal rules.
    c. Formatting with CSS: Formatting page, CSS, creating CSS, using external CSS, attaching
    d. CSS, page layout with CSS.

b. Bootstraps framework
    a. Basics of bootstrap, grid, components

REFERENCE BOOKS:

1. Joel Sklar, "Textbook of Web Designing", Cengage Learning Publication 2009
2. Jennifer Niederst, "Web designing in Nut Shell (Desktop Quick Reference)", O'Reilly publication
3. James Kalbach, "Designing web navigation" by Publication, O'Reilly publication
4. "How to become web master in 14 days", Techmedia publication
5. Sherry Bishop, Jim Shuman, Elizabeth Eisner Reading, Delmar, "The Web collection revealed premium edition : Dream weaver CS4 & Photoshop CS4 Language Learning"
6. Michael Palmer and Robert Bruce Sinclair, Local & Wide Area Network, Thomson Publications
7. Ivan Bayross, "Web Enabled Commercial Application Development using HTML, DHTML, Java Script, PERL, CGI", BPB Publication
8. Jake Spurlock, "Bootstrap: Responsive web development", O'Reilley
9. www.getbootstrap.com

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FACULTY OF COMMERCE & MANAGEMENT

MMS (Computer Management) Semester-I

w.e.f. 2017-18

1.4 ICT Fundamentals & Office Automation

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective: To prepare students in understanding ICT basics and to make aware of Office automation using MS- Office.

UNIT 1: Elements of ICT **[10]**

a. Definition of ICT, Impact of ICT in business
b. Communication – simplex, half-duplex and full duplex
c. Network, Types of computer Networks
d. Network Topology
e. Wireless communication – Bluetooth and wi-fi
f. Communication tools: email, chatting, Social networking, teleconferencing/video conferencing

UNIT 2: Operating System **[10]**

A) Operating Systems : What is booting, Definition of operating system , functions of operating system, types of operating system - batch operating system, time sharing, multi programming, multitasking, Distributed system, Real time System, Introduction to Operating systems – Mac OS, Linux, Windows, Android

B) Concept of Software: Definition**,** Types of software- System Software, Application Software, System Software

Meaning of Virus, Types & Effects of Viruses, Anti –Virus, Roles of antivirus

Programming Languages: High level, Middle Level, Low Level, 4GL

UNIT 3: WORD PROCESSING **[10]**

a. Introduction to Office Automation Suites, Components and features
b. Working with Documents and the Keyboard, Navigating through a Word Document
c. Basic Text Editing, Text Formatting, Paragraph Formatting, Page Formatting, header & footers, Templates
d. Working With Graphics and Pictures, Tables, Mail Merge, Printing, spell check, auto text.
e. Managing bibliography, working with index

UNIT 4: WORKING WITH SPREADSHEET [10]

a. Introduction to Worksheets and Workbooks, Working with Cells, Rows, and Columns,
b. Formatting Data and Cells, Formatting Rows and Columns, Editing Cells, Rows, Columns, and Worksheets, Conditional formatting
c. Formulas and Calculations, inbuilt Functions, Sorting and filtering
d. Adding Images and Graphics, Charts, Printing Worksheets, Protecting sheets

UNIT 5: PRESENTATION SOFTWARE [10]

a. Introduction to Power Point, Basics of Creating Presentations, Applying Themes and Layouts
b. Working with Objects, Entering, Editing, and Formatting Text, Working in Outline View
c. Inserting Pictures, Graphics, Shapes, and Other Things, Inserting Tables into Presentations, Charts and SmartArt, Adding Sound and Video
d. Adding Transitions and Animation, Master Slides, Printing and Running Slide Shows

UNIT 6: SOHO DATABASE SOFTWARE [10]

a. Introduction to database software, creating and editing databases, tables, forms and reports

REFERENCE BOOKS:

1. V. Rajaraman, “Fundamentals of Computers”, PHI publication.
2. Roger Hunt and John Shelley, “Computers and Commonsense”, PHI publication
3. Abrham Silberschatz, “Operating System concepts”, John Wiley & sons INC
4. A. S.Tananbaum, “Computer Network”
5. Vipra Computers, “Microsoft Office 2007”, Vipra Printers Pvt. Ltd.
6. Ed Bott and Woody Leonhard, “Special Edition Using Microsoft Office 2007”
7. Misty Vermaat, “Microsoft Office 2013”, Shelly Cashman

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FACULTY OF COMMERCE & MANAGEMENT

MMS (Computer Management) Semester-I

w.e.f. 2017-18

1.5 Programming in C

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective: To Train students with basic concepts of programming using C.

UNIT 1: Introduction **[10]**

a. History, Special features and application areas, Structured programming approach
b. Definitions- Program, Interpreter, Compiler
c. Algorithm: Basic notation of algorithm
d. Flowcharts: Definition, Symbols of flow charts
e. Examples of algorithms and flowcharts

UNIT 2: Input-Output and Control Flow **[10]**

a. Variable name, data types
b. Operators and expressions - arithmetic operators, relational operators, logical operators, increment, decrement operators, assignment operators, compound assignment operator, conditional expression, precedence and order of evaluation.
c. Standard Input-output, formatted input and output statements
d. Control flow: statement and block, if- else- if, switch, break, continue, go to, loops: while, for, do-while, nesting of loops.

UNIT 3: Functions and Program Structures **[10]**

a. Basics, declaring and calling and defining functions
b. Recursion
c. String functions.

UNIT 4: Pointer and Arrays **[10]**

a. Introduction to pointers, uses of pointers, address variable, pointer variable, pointer to function, pointers and function argument, pointer and arrays, pointer arithmetic
b. Character pointers and function
c. Multidimensional array
d. Command line argument

UNIT 5: Structure, Union, Typedef **[10]**

a. Structure Basics, Pointer to structure, Nested structure
b. Union
c. Typedef, enumerated data type

UNIT 6: File Handling **[10]**

a. Sequential file handling, File creation and access
b. Miscellaneous functions of file.

REFERENCES BOOKS:

1. E. Balagurusamy, “Programming in ANSI C”, Tata McGraw-Hill Education, 2008.
2. Yashavant P. Kanetkar, “Let us C”, BPB Publication.
3. Herbert Sehlidt, “The Complete Reference C”, Tata McGraw-Hill Publication.
4. V. Rajaraman, “Computer Programming in C”, PHI publications
5. Brian W. Kernighan, Dennis Ritchie, “C Programming Language,” 2nd edition, Prentice Hall

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FACULTY OF COMMERCE & MANAGEMENT

MMS (Computer Management) Semester-I

w.e.f. 2017-18

1.6 Lab I - Practical on Tally ERP and Web Designing

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Practical on Tally ERP

1. Creation of company, Alter and Shut Company, Delete the existing company and show the company details.
2. Creation of Groups, Alter the Groups and deletion of Group and Display Groups.
3. Creation of Ledger A/c's, Display and Alter the Ledger A/c's, Deletion of Ledger a/c's.
4. Demonstrate different types of voucher entries and display Profit & Loss A/c and Balance Sheet.
5. Creation of stock groups, stock Item and also stock category with unit of measurements.
6. Creation of Purchase order and sales order.
7. Showing Ledger wise Trial-Balance of a Company
8. Showing detailed Profit & Loss Account & balance Sheet of a Company
9. Showing Income & Expenditure Statements for Non Trading Concerns.
10. Showing Stock Summery Aging Analysis

Practical on Web Designing

1. Develop a web page using basic HTML tags
2. Develop a web page using Lists
3. Develop web pages using internal and external Hyperlinks
4. Develop a web page using tables
5. Develop a web form
6. Design a web page using frames
7. Design a web page demonstrating internal CSS
8. Design a web page demonstrating external CSS
9. Develop a web page using Dream Weaver
10. Create simple website using bootstrap elements

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FACULTY OF COMMERCE & MANAGEMENT

MMS (Computer Management) Semester-I

w.e.f. 2017-18

1.7 Lab II – Practical on Office Automation and C Programming

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Practical of Office Automation

1. Demonstrate style formatting and page formatting in Word Processor
2. Demonstrate creating and using templates in Word Processor
3. Demonstrate working with graphics, pictures, and tables in Word Processor
4. Demonstrate using mail merge with Word Processor
5. Demonstrate entering data, managing data, sorting and formatting data and cells in spreadsheet
6. Demonstrate using formulas and calculations in spreadsheet
7. Demonstrate adding images, graphics, charts and diagrams in spreadsheet
8. Demonstrate creating presentations and applying themes and layouts to slides
9. Demonstrate inserting pictures, graphics, shapes, tables, charts, Smart Art, notes and objects in presentation
10. Demonstrate adding sound, video, transitions, and animation to your PowerPoint presentations.
11. Create Student database. Insert records using form and generate report

Practical on Programming in C

1. Write a program to find the simple interest.
2. Write a program in to check the number is palindrome or not.
3. Write a program to find factorial of given number.
4. Write a program to print FiboNAACi series upto given term.
5. Write a program to generate all prime numbers in the given range.
6. Write a program to print given number in word (Ex: - 937 – Nine hundred Thirty Seven).
7. Write a program to find maximum and minimum of array elements..
8. Write a program to check armstrong number.
9. Write a program for matrix multiplication.
10. Write a program to demonstrate string functions
11. Write a program to Count the number of words in a given sentence.
12. Write a Program create a file & store information in it.
13. Write a Program to copy contents of one file into another file.

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FACULTY OF COMMERCE & MANAGEMENT

MMS (Computer Management) Semester-II

w.e.f. 2017-18

2.1 Communication Skills

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective:

- To study the personality development of individuals in the micro perspective.
- To understand communication cycle.
- To provide employability skills
- To know the process of Interview Techniques& Group discussion.
- To understand the needs and benefits of written communication.

UNIT 1: Basic Elements of Communication **[10]**

a. Definition – Elements of Communication - Process of communication
b. Role of Communication in Business – Characteristics of communication
c. Formal Channels – External – Outward and Inward –
d. Internal – vertical – Horizontal
e. Group Networks - Informal channels – Grapevine.

UNIT 2: Personality development **[10]**

a. Developing Interpersonal Relations
b. Analytical Skills, Multitasking Ability
c. Listening Skills.
d. Body Language.
a. Non Verbal Communication Skills.
b. Dialogue Skills

Need for dialogue and Conversation skills – skills needed for dialogue – Clear and Pleasant speech – Good manners and Etiquette – Self-control – Listening – Asking questions – Assertiveness without Aggression- Expressing disagreement without being offensive – summarizing and closure – feedback skills

UNIT 3: The "Why" and "To Whom" Parts of communication **[10]**

a. Defining Communication
b. Types of Communication- verbal/Non verbal
Technological/ Non Technological
Mediated/Non mediated
Participatory/Non Participatory

Intrapersonal or face to face Communication
Focused and Unfocused Interactions

c. Interactive Communication
d. Barriers of Communication

UNIT 4: Written Communication [10]

a. Qualities of good letter
b. Resume writing
c. Layouts of business letters
d. Writing different types of letters:-
    i Enquiries & Replies
    ii Orders & Replies
    iii Complaints & Claims
    iv Application Letters
    v Reports writing
e. Web Communication

UNIT 5: Interview Techniques [10]

a. General Tips on taking interview - Do's & don'ts.
b. Pre & post Preparation of the interview.
c. Interview : Types, Preparation, Conducting and Appearing for interview
d. Common Questions and flow-Warm-up questions-Questions that set the stage-detail part of interview-the trick negative questions- intention testing questions-compensation and financial details- difference between the American and Indian Interviews
e. The Interviewer Perspective

UNIT 6: Group Discussion [10]

a. Meaning, Objective, Methodology of Group Discussion, Guidelines for Group Discussion, Role Function in Group Discussion, Nonfunctional Behavior, Improving Group Performance.

REFERENCE BOOKS:

1. Penrose, Rasberry, Myers, "Business communication for managers", Cengage Learning
2. Raman & Singh, "Business communication", oxford Publication
3. Ruben Roy, Communication Today, Himalaya Publication
4. C. S. Raydu, "Business communication", Himalaya Publication
5. Taylor, Communication for Business, Pearson Education
6. Dr. Rao& Dr. Das, "Communication Skills", Himalaya Publication
7. Scot Ober, Biztantra, Dreamtech, "Contemporary Business Communication "
8. Bovee, Thill, Schatzman, "Business communication Today", Pearson
9. Lesikar & Flately, "Basics of Business communication", Tata McGraw Hills
10. R. K. Madhukar, "Business communication", Vikas Publication

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FACULTY OF COMMERCE & MANAGEMENT

MMS (Computer Management) Semester-II

w.e.f. 2017-18

2.2 Management Information System

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective: To develop the knowledge about process of MIS and its application to the business for decision making process.

UNIT 1: Fundamentals of Management Information Systems **[10]**

a. Definition - Data and information, types of information
b. Information System: Definition, classification of IS
c. Management Information System
d. Definition, importance, evolution
e. Components & Activities of MIS
f. Types – Operation support system & Management support systems
g. Control systems – Feedback & Feed forward systems
h. Computers and MIS

UNIT 2: Planning and development of MIS **[10]**

a. MIS planning process – Steps in planning
b. Management of Quality in the MIS
c. MIS design & Development Process
d. Factors contributing in the Success & Failure of MIS

UNIT 3: Support System **[10]**

a. Decision Support System (DSS): Concept, Philosophy, Characteristic, Classes, Users of DSS
b. Executive Support System (ESS) : Introduction, Components & Architecture
c. Office Information System: Document management & Communication system

UNIT 4: Expert System and Artificial Intelligence **[10]**

a. Artificial intelligence – definition, evolution, components and application
b. Expert System – Definition, architecture, stages in expert system development process
c. Knowledge based expert system

UNIT 5: ERP **[10]**

a. Definition, evolution, Advantages and limitations
b. Architecture of ERP
c. Phases of ERP implementation
d. Success and failure factors of ERP

UNIT 6: Application of MIS in functional areas **[10]**

a. Production

b. Marketing information System
c. Accounting
d. Personnel and services

REFERENCE BOOKS:

1. Waman S. Jawadekar, “Management Information System”, Tata McGraw Hill
2. Waman S. Jawadekar, “Management Information System Text and cases”, Tata McGraw Hill
3. Arora, Management Information System, Excel Books
4. Davis & Gordon, “Management Information System”, Tata McGraw Hill
5. James O’Brian & George M Marakas, “Management Information System”, TataMcGraw
6. D P Goyal, “Management Information Systems Managerial Perspectives”, Macmillan
7. S. Sadagopan, “Management Information Systems”, PHI
8. C S V Murthy, “Management Information System”, Himalaya Publishing House
9. Alex Leon, “Enterprise Resource Planning”, McGraw Hill Education

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FACULTY OF COMMERCE & MANAGEMENT

MMS (Computer Management) Semester-II

w.e.f. 2017-18

2.3 System Analysis and Design

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective: The course has been designed to provide a foundation of systems principles and an understanding of System development.

UNIT 1: Introduction **[10]**

a. **System definition and concepts,** Characteristics and types of system, Elements of Systems,
b. Feedback and feed forward control system
c. **Systems models types of models:** Real-time and distributed systems, Basic principles of successful systems

UNIT 2: System Development cycle **[10]**

a. Role and need of systems analyst
b. Introduction of Systems Development Life Cycle (SDLC)
c. Various phases of development :Analysis, Design, Development, Implementation, Maintenance
d. Systems documentation considerations: Principles of systems documentation , Types of documentation and their importance, Enforcing documentation discipline in an organization
e. SDLC Models : Waterfall Model, Spiral and RAD, Prototyping

UNIT 3: System Planning **[10]**

a. Data and fact gathering techniques: Interviews, Group communication, Presentations, Site visits.
b. Feasibility study and its importance
c. Types of feasibility reports- Technical, Economical and Behavioral
d. System Selection plan and proposal Prototyping

UNIT 4: Systems Design and modeling **[10]**

a. Logical and physical design
b. Systems flowcharts & Data flow diagrams
c. Common diagramming conventions and guidelines using DFD and ERD diagrams
d. Tools for Structured Analysis : Data Dictionary, Decision Tree and Decision Tables, Structured English

UNIT 5: Input / Output Design **[10]**

a. Classification of forms: Input/output forms design
b. User-interface design

c. Graphical interfaces

UNIT 6: Designing business application system using DFD, ERD , Input and Output layouts [10]

a. Library System
b. Inventory System
c. Hospital System

REFERENCE BOOKS:

1. Whitten, Bentaly and Barlow, “System Analysis and Design Methods”, Galgotia Publication.
2. Elias M. Awad, “System Analysis and Design”, Galgotia Publication
3. Roger Pressman, “Software Engineering”, McGraw Hill
4. K.K. Agrawal and Yogesh Agrawal, “Software Engineering”, 2nd Edition New Age International Publishers
5. James A. Senn, “Analysis & design of Information system”, McGraw Hill
6. Rahul Mishra, Anshu K. Chauhan, System Analysis & Design, Pragati Prakashan
7. Waman S. Jawadekar, “Software Engineering”, Tata McGraw Hill Education (India) Pvt. Ltd.

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2.4 RDBMS

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective- To prepare students in using and managing databases.

UNIT 1: Database Systems& Data Models **[10]**

a. Definition of DBMS& RDBMS
b. File processing system vs. DBMS
c. Limitation of file processing system
d. Advantages and Disadvantages of RDBMS
e. Relational Model, Network Model, Hierarchical Model, Entity Relationship Model

UNIT 2: Relational Database Design **[10]**

a. Entity, Attribute, relationship Set
b. ERD
c. Keys: Primary, Super, Candidate, Foreign Key
d. Codd's Rules
e. Normalization, Normal Form:1 NF, 2 NF, 3 NF

UNIT 3: Introduction to SQL (Structured Query Language) **[10]**

a. Types of SQL: DDL, DML, DCL Statements.
b. Constraints: Not Null, Unique, Primary Key, Check, Referential Integrity.
c. Clauses: where, group by, having, order by.
d. Functions: Numeric Functions, Character Functions, Aggregate Functions, Date Functions.

UNIT 4: Nested Queries, Joins &Database Objects: **[10]**

a. Nested Queries
b. Joins: inner join, outer join
c. Database Objects: Sequence, View, Synonym, Index

UNIT 5: Managing Users: **[10]**

a. Creating user,
b. Granting privileges – Object Level and Database Level
c. Revoking Privileges – Object Level and Database Level.
d. Access Matrix

UNIT 6: Concurrency Control & Transaction Management [10]

a. Concept of Concurrency Management
b. Rollback and Commit statements
c. Types of Locks
d. Select …for update & Lock table command.
e. Transaction – Definition ACID properties, state of transaction
f. Protocols – timestamp protocol, 2 phase locking protocol
g. Deadlock – concept, prevention and recovery

REFERENCE BOOKS:

1. Abraham Silberschatz, Henry F. Korth & S. Sudarshan, "Database System Concepts", McGraw-Hill
2. Ivan Bayross, "Oracle", BPB Publication
3. "Oracle DBA Certification Guide", Oracle Press OCP Guide
4. Pranab kumar Das Gupta, P. Radhakrishna, "Database Management System Oracle SQL and PL/SQL", PHI publications

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2.5 Object Oriented Programming Using C++

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective- To train students in programming using object oriented concepts with C++.

UNIT 1: Introduction **[10]**

a. History of C++
b. Structured Vs Object oriented development
c. OOP's Features-Object, Classes, Data Encapsulation & Abstraction, Delegation, Inheritance, Polymorphism, Message Communication.

UNIT 2: Classes and Objects **[10]**

a. Access Specifier
b. Class Specification- Defining Members
c. Creating Objects
d. Constructors, types of Constructors, destructor
e. Friend Class and Friend Function

UNIT 3: Polymorphism **[10]**

a. Function overloading,
b. Operator Overloading- unary, binary operators, using friend functions, without using friend functions
c. Virtual & Pure Virtual functions

UNIT 4: Inheritance **[10]**

a. Types of Inheritance
b. Member Accessibility
c. Visibility Modes
d. Virtual Base Class
e. Abstract class.

UNIT 5: Templates & Exception Handling **[10]**

a. Template concepts, Advantages of using templates
b. Class template
c. Function template
d. Exception handling

UNIT 6: Stream Computation **[10]**

a. Stream Computation with console
b. Streams computations with Files.

REFERENCE BOOKS:

1. K R Venugopal, Rajkumar, T Ravishankar, Mastering C++, TMH Publication
2. Yashwant Kanetkar, Exploring C++ , BPB publication
3. W. Balguruswamy, Object Oriented Programming using C++, TMH
4. The C++ Programming Language by
5. Bjarne Stroustrup, C++ Programming Language
6. Steven Holzner, Black Book, Dreamteach publication
7. Herbert Schildt, The Complete reference C++ 4th Edition by McGraw Hill Education (Inda) Pvt. Ltd. New Delhi,

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2.6 Lab III – Practical on RDBMS

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Practical on RDBMS

1. Create a table, Insert 10 Records into it. Also perform alter table
2. Demonstrate simple SQL queries
3. Demonstrate use of operators IN, OR, AND, BETWEEN, NOT, LIKE, EXISTS
4. Create table with various constraints, insert records and also perform alter, update, delete etc.
5. Demonstrate Aggregate functions, Date functions, String functions,
6. Demonstrate the use of Group By and Having Clause
7. Demonstrate Joins and nested queries.
8. Demonstrate View, Sequence, and Synonym.
9. Create User. Grant and Revoke privileges to and from user.
10. Demonstrate concurrency control.

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2.7 Lab IV – Practical on C++

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Practical on Object Oriented Programming using C++

1. Write C++ program to demonstrate the use of class and object
2. Write a C++ program to demonstrate function overloading
3. Write a C++ program to demonstrate operator overloading using friend function.
4. Write a C++ program to demonstrating the use of constructors and destructor
5. Write a C++ program to demonstrate the Single & multiple inheritance.
6. Write a C++ program to demonstrate multilevel and hierarchical inheritance
7. Write a C++ program to demonstrate the use of virtual function
8. Write a C++ program to demonstrate the concept of function template & class template.
9. Write a C++ program to demonstrate Exception Handling
10. Write a C++ program to demonstrate File handling**.**

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3.1 CRM and Digital Marketing

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective: To aware the students with the concepts of customer relationship management and digital marketing

Unit 1: Customer Relationship Management- Overview **[10]**

a. Need of CRM, Importance of CRM, Characteristics of CRM,
b. Pareto's Law, Types of CRM,
c. CRM implementation issues- Challenges & Barriers
d. CRM and Marketing department
e. Variations of CRM

Unit 2: Customer Loyalty and Retention **[10]**

a. Customer loyalty & customer retention definition & meaning
b. Factors influencing satisfaction and loyalty
c. Relationship between customer loyalty and company profitability
d. Loyalty programs
e. Loyalty segments

Unit 3: Service and complaint management **[10]**

a. Principles of complaint handling
b. Introduction to service, challenges to service as business
c. Service level management in CRM context
d. Concept of e-CRM, & sales force automation
e. CRM in retail sector.

Unit 4: Digital Marketing **[10]**

a. Concept of E- Marketing scope and advantages
b. Online marketing mix – Segmentation, Targeting and positioning
c. Behavioural targeting and contextual targeting
d. Web 2.0 and marketing
e. Dynamics of online consumer visit

Unit 5: Digital marketing drivers **[10]**

a. Social media: Mckinsey model, Media analytics, Tools

b. Online Branding: Cyber branding, Brand experience, Brands and emotions
c. Traffic building: Search marketing methods, Keyword advertising, websites and marketing
d. E-commerce: Online market prices, online distribution and procurement
e. Revenue benefits: Role of internet in impacting consumer price sensitivity, Price effects in online domain.
f. Web business models: Customer value analysis and internet, Value of customer contact.

Unit 5: Integrating Online Communication into IMC Process - Online Advertising [10]

a. Email Marketing and Viral Marketing
b. Affiliate Marketing - Participatory
c. Communication Networks - Social Media Communities, Face book-Twitter etc
d. Consumer Engagement
e. Sentiment mining
f. Uses of games as marketing tools

.

REFERENCE BOOKS:

1. Mukesh Chaturvedi and Abhinav Chaturvedi, "Customer Relationship Management, An Indian Perspective", Excel Books, 2008
2. Ekta Rastogi, "Customer Relationship Management, Text and Cases, Excel Books", 2011
3. Seema Girdhar, "Understanding CRM", Excel Books, 2013
4. C Bhattacharjee, "Services Marketing", Excel Books, 2010
5. Alok Kumar Rai, "Customer Relationship Management", 2012
6. Strauss Judy, "E-Marketing", Prentice Hall, India
7. Kotler, P., Armstrong, G., Brown, L., Chandler, S. A. (1998), "Marketing", (4th edn), Prentice Hall, Sydney.
8. Vandana Ahuja, "Digital Marketing", Oxford university press
9. Damian Ryan, Calvin Jone. Kogan Page, "Understanding Digital Marketing: Marketing Strategies for Engaging the Digital Generation"
10. William M. Pride, O. C. Ferrell, "Marketing 2012" Cengage Learning.

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3.2 Cyber Security and IT Act

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective:

- To introduce the student with information security, security threats and control.
- To study and understand the basic concepts of cryptography, network security and cyber laws.

UNIT 1: Introduction to Information Security **[10]**

a. History of Information Systems and its Importance, basics of IS
b. Nature of Information Systems
c. Basic Principles of Information Security

UNIT 2: Security Threats and Controls **[10]**

a. Information System Threats and attacks
b. Security Threats to E Commerce
c. Business Transactions on Web
d. E-Governance
e. Concepts in Electronics payment systems, Internet Banking, E-Cash, Credit/Debit Cards.
f. Physical Security- Needs, Disaster and Controls
g. Access Control- Biometrics, Benefits of Biometrics Systems and Criteria for selection of Biometrics, Finger Prints.

UNIT 3: Cryptography **[10]**

a. Model of Cryptographic Systems
b. Issues in Documents Security
c. Digital Signature, Requirement of Digital Signature System

UNIT 4: Network Security **[10]**

a. Network Security- Basic Concepts, Dimensions, Perimeter for Network Protection
b. Network Attacks
c. Need of Intrusion Monitoring and Detection, Intrusion Detection System
d. Virtual Private Networks- Need, Use of Tunneling with VPN, Authentication Mechanisms, Types of VPNs and their Usage, Security Concerns in VPN

UNIT 5: Cyber Crime **[10]**

a. Cyber Crime Introduction
b. Email Tracing and Tracking, Email Spoofing
c. Mobile Number Hacking
d. Data Recovery
e. Cyber Fraud Detection, Hack Website
f. Web Server/ISP
g. Web & DOS Attacks
h. Security Policy

UNIT 6: Cyber Law & IT Act 2000 **[10]**

a. Fundamentals of Cyber Law,
b. Introduction to Indian Cyber Law: Information Technology Act 2000, Main features of the IT Act2000, Information Technology Amendment Act 2008 and its major strengths.

REFERENCE BOOKS:

1. Godbole," Information Systems Security", Willey
2. Merkov, Breithaupt," Information Security", Pearson Education
3. Yadav, "Foundations of Information Technology", New Age, Delhi
4. Schou, Shoemaker, "Information Assurance for the Enterprise", Tata McGraw Hill
5. Sood,"Cyber Laws Simplified", McGraw Hill
6. Furnell, "Computer Insecurity", Springer 7. IT Act 2000

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3.3 Graphics and Animation

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective: To prepare students to acquire the required skills to create animations and graphics, this can be helpful in building commercial websites.

UNIT 1: Introduction to Animation **[10]**

a. What is Animation, History of Animation
b. Principle of Animation
c. Types of Animation & Animation Tech.
d. Classical Animation, Stop Animation, Clay animation, Frame Animation
e. Cell Animation.
f. Components used for designing animation such as light box, Live Shooting, Love
g. Photography, Croma Shoot
h. Techniques of story boarding for digital film making
i. Understanding vector animation
j. Use of Animation in Industries
k. Concept of 2D, 3D animation

Getting Started with Flash CS3

a. Welcome Screen
b. Creating new movies
c. Touring the interface
d. Panels
e. Toolbox
f. Saving flash files.

UNIT 2: Working with Graphics **[10]**

a. Grouping of Elements –
b. Combine Objects – Delete Envelope, Union, Intersect, Punch, Crop.
c. Working with Text
d. Creating a static text field, Creating a Dynamic text field, Creating a Input text field,
e. Editing Text Field-Scrolling the Text, Breaking Apart The Text
f. Working with Library - Importing Library , Library properties, Common Library, Creating own Library
g. Working with Colors - Color mixer, creating gradients, opacity of gradients, creating custom gradients
h. Working with graphics
i. Importing & working with Bitmaps, Jpeg, gif, etc, Break apart

Creating Flash Elements:

a. Working With Object

b. Drawings, creating, moving, drag, cutting, copying, and selecting objects.
c. Arrange and align objects
d. Transforming Objects - Transforming an object freely, Distorting an object, Modifying an object with envelope modifier, Scaling an object, Rotating & skew an object, Flipping an object, restoring a transformed object.
e. Working With Symbol & Instances - About the symbol, creating and deleting symbols, duplicate and modify an instance of a symbol
f. Types of Symbol- Movie clip, Button, Graphic
g. Creating Dynamic Buttons, editing buttons, converting an existing into a movie clip, placing movie clip symbol inside the button symbol.
h. Marking Positions - What is Onion Skinning & its Types & uses.

UNIT 3: Working with Flash CS3 **[10]**

a) Working with Layers

a. Introduction to layers, Hide & Show Layers ,Lock a Layer, Add and name layer, change the orders of layers, organize layers in folder.
b. Type of Layers-Guide layer, Mask layer, layer properties
c. Masking Animation, Masking Frame by Frame

b) Tweened Animation

a. Motion Tween Animation
b. Creating motion tween-setting the property of tweening object, additional tween on existing layer
c. Editing the motion path of an tween – changing the position, location, deleting the motion path, applying motion preset,
d. Shape tween Animation: Creating shape tween-setting the property of tweening object, additional tween on existing layer
e. Applying Path, orient to path
f. Frame by Frame Animation:Creating frame by frame animation

c) Flash CS3: Effects

a. Timelines Effect
b. Using filters - Alpha, Blur, Glow, Bevel, Drop Shadow etc.
c. Adding effects to Buttons

UNIT 4: Flash CS3: Action Script **[10]**

a. Introduction to Flash Action Script
b. Add a script to button by using script assist mode
c. Add frame scripts to timeline by using script assist mode
d. Add a frame script to the title movie clip
e. Action Script: Adding Interactivity
f. Setting up your workspace
g. Name button instances, Add a scene, Move between buttons with the stop() action .
h. Link the buttons to the scene
i. User behaviour to play an MP3 file

UNIT 5: Create a form with conditional logic **[10]**

a. Add an input text field to collect from data
b. Add submit button to the form
c. Add an error() message
d. Add a confirmation message
e. Add a stop() action
f. Add conditional logic for the submit button
g. Write a function for Try Again button Working with Sound & Video
h. Working with sound: Importing Sound file, adding sound to the timeline, adding sound to
i. button, editing sounds,
j. Working with Video: Importing & Editing a video file

UNIT 6: Flash CS3: Flash Web Templates **[10]**

a. Creating Interactive Webpage
b. Optimizing Movies & Exporting movies for the web exporting files

Publish flash documents

a. Using different publishing formats
b. Using publishing profiles
c. Adding flash player detection
d. Publishing for deployment

REFERENCE BOOKS:

1. "Flash CS3 in Simple Steps" – Kogent Learning Solutions – Dreamtech Press
2. Dinesh Maidasani. "Flash 8-Straight to Point", Firewall Media Publisher
3. Jay Armstrong, Jen deHaan, "Macromedia Flash 8: A Tutorial Guide", BPB Publisher
4. "Flash MX BIBLE", By BPB Publisher

WEBSITES

1. http://www.bestdesignservices.com/flash-banners.html
2. http://www.flash-design-marketing.com/tutorials/free-fla-files/flash-graphics.shtml
3. http://www.flashfridge.com
4. http://www.flashvault.net
5. http://logolitic.com/40-animation-flash-tutorials/
6. http://www.flasheff.com
7. http://www.flashwonderland.com/adobe-flash-interesting-flash-animation-tutorials.html

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3.4 Web Scripting with PHP and MySQL

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective: To impart the knowledge of Website development using PHP among student.

UNIT 1: Scripting Language Basics **[10]**

a. Meaning of Scripting Language
b. Types of Scripting – client side and server side scripting
c. Scripting Language vs. programming Language
d. Differences between client-side and server-side scripting
e. Advantages and Disadvantages of Scripting Languages

UNIT 2: Introduction to Web Development **[10]**

a. Web architecture
b. Web Server (IIS Server, Apache server)
c. Web Browser
d. Open Source, Proprietary Technologies

UNIT 3: Programming with PHP **[10]**

a. PHP Structure and Syntax
b. Embedding PHP in HTML
c. Constants and Variables
d. Passing Variable between Pages
e. Using if/else, Switch
f. Loops
g. String
h. Operators
i. Includes
j. Functions
k. Arrays
l. Using PHP $_GET, PHP $_POST

UNIT 4: Working with Forms **[10]**

a. Processing Forms
b. Form Files & Directories
c. PHP SESSION
d. PHP Cookies

UNIT 5: Introduction to MYSQL **[10]**

a. Introduction to MySQL
b. Data type in MySQL
c. Interacting with Databases using PhpMyAdmin

d. Modifying Database Records Using PHP
e. MySQL Connect, Create, Insert, select, Where, Orderby, Update, Delete using PHP
f. Import Export MySQL Database.

UNIT 6: OOPs Concept and Advanced PHP [10]

a. Introduction, Advantages
b. Class & object, data member, data fields.
c. Inheritance, constructor & destructor, abstract classes, final classes.
d. Exception handling
e. Emailing in PHP
f. File uploading
g. Loading PHP application on web server By FTP.

REFERENCE BOOKS:

1. Dave Mercer, Allan Kent, Steven Nowicki, David Mercer, Dan Squier, Wankyu Choi, "Beginning PHP5", Wiley Publishing(Wrox) ISBN: 0-7645-5783-1
2. Michael K. Glass, Yann Le Scouarnec, Elizabeth Naramore, Gary Mailer, Jeremy Stolz, Jason Gerner, "Beginning PHP, Apache, MySQL Web Development", Wiley Publishing(WROX),March 2004, ISBN: 978-0-7645-5744-6
3. Luke Welling, Laura Thompson, Sams, "PHP, MySql Web Development", second edition
4. Ivan Bayross, Sharanam Shah, THE X Team , "PHP for Beginners", SPD
5. www.w3schools.com
6. www.basicphpprogramming.com

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3.5 C#.NET Programming

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective: To impart the knowledge of object oriented programming using C# among student.

UNIT 1: The .Net framework **[10]**

a. Introduction to .NET framework
b. The Origin of .Net Technology
c. Common Language Runtime (CLR)
d. Microsoft Intermediate Language (MSIL)
e. Just-In –Time Compilation (JIT)
f. Introduction to C #
g. Advantages & Disadvantages of C#

UNIT 2: Programming using C# **[10]**

a. Programming Structure of C#
b. Basic Constructs – Variables, Data types, Operators, arrays, functions
c. Control Statements (if statement, if...else statement, nesting of if...else statement, the else if ladder, switch statement)
d. Looping Construct (while statement, do statement, for statement)

UNIT 3: Object Oriented Programming in C# **[10]**

a. Class and Object
b. Constructors and Destructors
c. Inheritance
d. Interfaces
e. Access modifiers: Public, Private, Protected
a. Polymorphism
b. Overloading and Overriding
a. Sealed Classes
b. Types of errors
c. Try and catch block ,Multiple Catch Blocks

UNIT 4: Windows Applications in C#.NET **[10]**

a. Introduction to GUI Programming
b. GUI Components/ Controls (Windows Forms, Text Boxes, Buttons, Labels, Check Boxes, Radio Buttons, List Boxes, Combo Boxes, Picture Boxes, Timer, Scrollbars, Menus, Built-in Dialogs, Image List, Tree Views, List Views)

UNIT 5: ADO.NET **[10]**

a. Introduction to ADO.NET
b. Components of ADO.NET

c. ADO.NET Data Providers
d. Working with Disconnected Data

UNIT 6: Crystal Report **[10]**

a. Introduction to crystal report
b. Crystal report viewer
c. Simple crystal report
d. Parameterized crystal report

REFERENCE BOOKS:

1. Solis, “Illustrated C# 2008”, Publication APRESS, ISBN 978-81-8128-958-2
2. Christian Nagel, Bill Evjen, Jay Glynn, Karli Watson, Morgan Skinner, WROX , “Professional C# 4.0 and .NET 4”
3. Dan Clark , “Beginning C# Object-Oriented Programming” Apress
4. Peter D. Blackburn, “ADO.NET Examples and Best Practices for C# Programmers”, Apress
5. Carsten Thomsen, “Database Programming with C#”, Apress

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3.6 Lab V – Practical on Graphics & Animation and PHP

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Objective: To practically train students in Graphics using Flash and programming in PHP

Practical on Graphics and Animation

1. Creating scene with an cartoon drawing
2. Demonstrating use of frame by frame Animation.
3. Demonstrating use of symbols and Filters.(Use Motion Tween Animation)
4. Drawing a house with a pencil.(Use Shape Tween Animation)
5. Demonstrating use of Guide Layer & Mask Layer.
6. Creating an e-Card of Birthday Wishes.
7. Create a banner for Website.
8. Demonstrating Motion of Animal (Any Animal Walking, Running etc.)
9. Creating Animation facial expression with the help of smiley.
10. Create multiple scenes and animate it.
11. Create a web advertisement.
12. Create a Flash presentation on any current issues. (Global warming, air pollution, no smoking, save trees etc.)
13. Create an attractive web advertisement and publish it on webpage.

Practical on PHP and MySQL

1. Write a PHP script to demonstrate use of $_GET and $_POST.
2. Write a PHP Script to display Resume on web browser.
3. Write a PHP script to display table of a number.
4. Write a PHP script to calculate factorial of a number.
5. Write a PHP script to create a Simple Login Window with validation.
6. Write a PHP script to Demonstrate inbuilt functions.
7. Write a PHP script to demonstrate use of user defined Function.
8. Creation of MySql database demonstration of various SQL queries(create table,insert, update, delete)
9. Accessing MySql data from PHP script: Displaying tables and fields along with their types and constraints, table data in tabular format.
10. Write a PHP script to Demonstrate OOPS Concept In PHP.

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3.7 Lab VI – Practical on C#.NET Programming

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Objective: To practically train students in programming in C#.NET

Practical on C#.NET Programming

1. Write a program to print "Teach One, Each One, Tree One" given number of times
2. Write a program to show use of different operators
3. Write a program to show use of Looping Constructs
4. Write a program to show use of Constructor
5. Write a program to demonstrate Inheritance
6. Write a program to show use of Exception Handling
7. Create a simple C# application using Label, TextBox, Button control
8. Create a C# application using ListBox, ComboBox control
9. Demonstrate the use of Timer control in C#
10. Create a C# application using PictureBox, ScrollBar control
11. Demonstrate Simple Database Connectivity using wizard.

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4.1 Human Resource Management

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objectives:

- To understand importance of Human Resource Management.
- To provide essential knowledge of important function of HRM.
- To get acquainted about latest trends & practices of HRM

UNIT 1: Introduction to Human Resource Management (HRM) **[10]**

a. Definitions, Nature, Scope, Objectives & Functions of HRM
b. HRM Vs. Personnel Management, HRM Vs. HRD
c. Role of HR Management
d. Qualities of HR Manager
e. Future Challenges before HRM

UNIT 2: Human Resource Planning **[10]**

a. Concept, Need of HRP
b. Factors Affecting HRP
c. Process of Human Resource Planning
d. Methods of HR Forecasting
e. Requirements of Effective HRP
f. Barriers to HRP

UNIT 3: Recruitment, Selection, Placement, Induction **[10]**

a. Concept, Purpose &Factors Affecting Recruitment
b. Sources of Recruitment
c. Concept of Selection, selection process
d. barriers of selection
e. Concept & Problems of placement
f. Concept and Objective of induction

UNIT 4: Training & Development **[10]**

a. Meaning, Need and Objective of Training,
b. Difference between Training and development
c. Methods of Training : On the Job & Off the Job
d. Evaluation of Training

UNIT 5: Performance appraisal **[10]**

a. Definitions, Objective & Process of Performance Appraisal
b. Methods of Performance Appraisal – Traditional and Modern
c. Problems with Performance Appraisal

UNIT 6: Trends in HRM: **[10]**

a. Human Resource Audit
b. Human Resource Information System
c. Human Resource Accounting
d. HR Balance score card
e. Emotional Intelligence
f. Flexi-time & Flexi-work
g. e-HRM : e-recruitment, e-selection, e-training & e-learning.

REFERENCE BOOKS:

1. Mathis, Jackson, Tripathi, "Human Resource Management: A south Asian Perspective", Cengage Learning
2. GarvyDessler, "Human Resource Management" Pearson
3. Dr K. Ashwathappa, "Human Resource Management" Tata McGraw Hill
4. Lathi, Narkhede, "Human Resource Management", Prashant Publications
5. Seema Sanghi, "Human Resource Management", Macmillion
6. S.S.Khanka, "Human Resource Management",S Chand & Sons
7. Snell, Bohalender, Vohra, "Human Resource Management: A south Asian Perspective", Cengage Learning
8. P. SubbaRao, "Essentials of Human Resource Management", Himalaya Publishing House
9. Pravin Durai, "Comprehensive Human Resource Management", Pearson
10. Wayne Mondy, "Human Resource Management", Pearson
11. Pande/ Basak, "Human Resource Management : Text and Cases", 1st Edition, Pearson
12. Dr. C.B. Gupta, "Human Resource Management", Sultand Chand & Sons
13. Dr. V.S.P Rao, "Human Resource Management", Text & Cases, Excel Books

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MMS (Computer Management) Semester-IV

w.e.f. AY 2018-19

4.2 E-Commerce and M-Commerce

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective: To prepare students to acquire the knowledge of recent trends in e-commerce. Also students are prepared for website management which can helpful in industry.

UNIT 1: An overview of E- Commerce **[10]**

a. Fundamentals of ecommerce, Advantages of ecommerce, Comparison between Traditional and e-Commerce
b. Types of E Commerce Solutions, Obstacles in adopting ecommerce Applications
c. Future of E Commerce
d. Electronic data Interchange (EDI).

UNIT 2: Applications of Electronic Commerce **[10]**

a. Application of E Commerce in Direct Marketing and Selling
b. Value Chain Integration
c. Supply Chain Management
d. Financial and Information Services

UNIT 3: Security in E-Commerce **[10]**

a. Security Threats, cryptography, methods of encryption, Certificate Authority, Digital Certificate
b. Secure electronic transition (SET), Secure Socket Layer (SSL)
c. Firewall
d. Virtual private network.

UNIT 4: Electronic Payment Systems [**10]**

a. Internet Payment Process, electronic payments systems, ecash(Customer to Merchant Payments, Peer to Peer Payments, Security). E-wallets, Debit card, Credit card, Smart card
b. Electronic Banking, Electronic Fund Transfers.
c. Website Management

UNIT 5: E-commerce Infrastructure **[10]**

a. Need for an Intelligent Website, technology Infrastructure Required
b. Basic Web Languages for Web Designing
c. Corporate Strategic Infrastructure Required
d. Miscellaneous Website Design Tips

UNIT 6: Basics of M-Commerce **[10]**

a. Overview of M-Commerce - Wireless Application Protocol (WAP), Generations of Mobile Wireless Technology
b. Components of Mobile Commerce
c. Networking Standards for Mobiles

REFERENCES BOOKS:

1. C S V Murthy, "E Commerce-Concepts-Models-Strategies" Himalaya Publishing House, 2002
2. Kenneth Laudon Carol GuercioTraver, Azimuth Interactive, "E-Commerce", 6th Edition, Prentice Hall
3. Henry Chan (The Hong KongPolytechnic Uni), Raymond Lee(The Hong Kong Polytechnic Univ.), TharamDillon (The Hong Kong Polytechnic Univ.), Elizabeth Chang (The Univ. ofNewcastle, Australia), "E-Commerce: Fundamentals and Applications", ISBN: 978-0-47149303-7
4. P. Candance Deans, "E-commerce and M-commerce Technologies", IRM Press, ISBN : 9781591405665

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4.3 Internet Computing with ASP.NET

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective - To prepare students to acquire knowledge of creating interactive websites using ASP.Net. The students will be ready to develop the dynamic commercial websites with the industry required latest technology.

UNIT 1: Introduction **[10]**

a) Introduction to ASP.NET

a. What is ASP.NET?
b. ASP vs. ASP.NET
c. Upgrading HTML Pages to ASP.NET
d. Upgrading ASP Pages to ASP.NET

b) Essentials of ASP.NET

a. Types of web sites in Visual Web Developer
b. ASP.Net Web Page Model (Single Page Model, Two Page Model)
c. Server Side Script Execution

UNIT 2: Objects and Controls **[10]**

a. Working with Web form controls
b. HTML Server Controls
c. Validation Controls
d. AdRotator Controls
e. Detect Browser Capabilities
f. Page Level Errors and Application Level Errors
g. Control Events, Connect Multiple Event to Single Event Handler

Intrinsic Objects

a. Request Object
b. Response Object
c. Session Object
d. Application Object
e. Server Object

UNIT 3: State Management **[10]**

a. Page Level - ViewState
b. User Level - Session
c. Application Level - Application
d. Website Level - Cookies
e. Cleaning the Session State
f. Global Application Class (global.asax)
g. Web Configuration File (web.config)

UNIT 4: Data Access with ADO.NET **[10]**

a. Overview of ADO.NET Objects,
b. Create and retrieve Database Connections
c. SqlDataSource Controls
d. ASP.NET Data-Bound Controls
e. GridView, Repeater, DataList, Details View, Form View

UNIT 5: Master Pages & skins **[10]**

a. Master Page overview
b. How to Create Master Page
c. Configure Content Page
d. Themes and Skins in ASP.NET

UNIT 6: Security and Configuration **[10]**

a. Using the CreateUserWizard control
b. Using the LoginStatus control
c. Using the Login control
d. Using the LoginView control
e. Web.Config vs. Machine.Config

REFERENCE BOOKS:

1. Crouch Matt J, "ASP.NET and VB.NET Web Programming", Addison Wesley 2002.
2. J.Liberty, D.Hurwitz, "Programming ASP.NET", 3rd Edition, O'REILLY, 2006
3. SAMS Publication Series
4. www.asp.net
5. www.w3schools.com

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FACULTY OF COMMERCE & MANAGEMENT

MMS (Computer Management) Semester-IV

w.e.f. AY 2018-19

4.4 Java Programming

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective - To prepare students to acquire knowledge of programming language using Java. The students will be able to create applications in Java

UNIT 1: Introduction **[10]**

a) Introduction to JAVA

a. Features of Java
b. Java Virtual Machine
c. Comparison between C++ and Java

b) Programming Concepts of Basic Java

a. Identifiers and Keywords
b. Data Types in Java
c. Input Output in Java
d. Control structures, decision making statements
e. Arrays
f. String and its methods

UNIT 2: Objects and Classes **[10]**

a) Object Oriented Features

a. Structure of class
b. Constructors
c. Inheritance with its types
d. Access modifiers
e. Polymorphism (Function Overloading and Overriding)

b) Language Features

a. Abstract Class, static, final
b. Interfaces
c. Packages, built in & user defined packages

UNIT 3: Exception Handling **[6]**

a. Types of Exceptions
b. Handling Exceptions using try, catch, throws, finally

UNIT 4: Applets **[6]**

a. Applet Life cycle
b. Applet Tag and its attributes
c. Creating Applets

UNIT 5 : Event Handling **[16]**

a. Event Delegation Model
b. Events (action event, Event Sources & Listeners)

AWT and Swing component

a. Containers, Frames and Panel
b. FlowLayout, BorderLayout, GridLayout
c. MVC Model, Swing Components (JTextbox, JButton**,** JRadioButton, JCheckbox)

UNIT 6: JDBC **[12]**

a. JDBC Model
b. JDBC divers
c. Establishing connection with database

REFERENCES BOOKS:

1. Cay S Horstmann, "Core JAVA" 2 Vol-1 & Vol-2, Gary Cornell
2. "Java by Example 1.2" -The Sun Micro Systems Press, New Delhi
3. E. Balguruswamy, "Programming with Java A Primer"
4. Deitel and Deitel, "Java How toProgram", Prentice Hall
5. Herbarte Scildt, "Complete Reference Java -2", 5th Edition, McGraw Hill
6. "Java-2 Black Box",Tata McGraw Hill

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MMS (Computer Management) Semester-IV

w.e.f. AY 2018-19

4.5 Project Work

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

1. Students Group Project is not allowed.
2. Use of CASE tool and testing tools is desirable.
3. Students have to submit Project Report in hard copies as well as in pdf format to the college & college should submit it to university.
4. Marks are Out of 100 (Convert to out of 40 for internal and to out of 60 for external)
5. Project Marking Scheme for MMS (Computer Management) as follow

Criterion	Performance	Scale Of Marking	Total marks	Marks Given
Quantum of Work	Not enough for Project	0	06	
	Just right	2		
	Good amount of work done	4		
	Very-good amount of work	6		
Understanding of project/task objectives	No understanding of project/task objectives	0	06	
	Fair amount of understanding	2		
	Clear understanding of various aspects	4		
	Detailed understanding of the all aspects of the project	6		
Approach adopted	Technically inept, with no motivation to improve	0	06	
	Reasonable level of skills demonstrated	2		
	Technical competence demonstrated	4		
	Outstanding demonstration of technical skills, creative approach	6		
Effort	No evidence of interest in the work	0	06	
	Reasonably good effort	2		
	Conscientious effort	4		
	Excellent amount of effort	6		
Initiative and	No Evidence	0	06	

Criterion	Performance	Scale Of Marking	Total marks	Marks Given
self-motivation	Evidence of some contribution of ideas	2		
	Significant contribution towards developing/refining/doing the task allocated	4		
	Sufficient evidence of handling the tasks independently and efficiently	6		
Achievement of objectives	Not much progress	0	06	
	Adequate but not enough	2		
	Good progress and made best use of the opportunities present	4		
	Outstanding performance	6		
Report Content	Not Submitted	0	06	
	Mostly sound but a lot of scope of improvement	2		
	A very well structured report	4		
	Comprehensive and detailed report	6		
Presentation	Not presented	0	10	
	Okay, but not an overall understanding of what constitutes a presentation	3		
	Well presented	6		
	Very well presented, with clear understanding of goals	10		
Q & A	Not participated	0	08	
	Could handle but confused	2		
	Could handle competently	5		
	Could handle professionally	08		

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FACULTY OF COMMERCE & MANAGEMENT

MMS (Computer Management) Semester-IV

w.e.f. AY 2018-19

4.6 Lab VII – Practical on ASP.NET

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Practical on ASP.NET

1. Demonstration of creating a simple web form
2. Demonstrate how to handle Application Level Errors.
3. Demonstrate how to check Browser Capabilities.
4. Demonstrate the use of Server.Transfer and Query String
5. Demonstrate how to use SiteMapPath control.
6. Demonstrate how to use TreeView control.
7. Demonstrate use of Master Pages.
8. Demonstrate use of global.asax
9. Demonstration of GridView Data Control.
10. Demonstration of ASP.NET objects (HTTPApplicationState, HTTPSessionState)

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MMS (Computer Management) Semester-IV

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4.7 Lab VIII – Practical on Java Programming

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Practical on 4.4 JAVA Programming

1. Create and execute java program to demonstrate use of array.
2. Create and execute java program to demonstrate string methods.
3. Create a program to demonstrate user define package.
4. Create and execute java program to demonstrate exception handling in java
5. Create and execute java program to demonstrate use of inheritance.
6. Create and execute java program to demonstrate implementation of interface.
7. Create and execute java program to display different shapes on an applet.
8. Create java program to demonstrate button event to display HELLO WORLD on Frame
9. Write a program to demonstrate swing components.
10. Create java program to demonstrate Database connectivity

|| अंतरी पेटवू ज्ञानज्योत ||

कवयित्री बहिणाबाई चौधरी उत्तर महाराष्ट्र विद्यापीठ, जळगाव
Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

अभ्यास मंडळ विभाग

जा.क्र. :उमवि/२१/Environmental Studies/527 /२०१८ दिनांक:- २२/११/२०१८

प्रति,
क.ब.चौ.उमविशी संलग्न सर्व महाविद्यालयांचे मा.प्राचार्य
व मान्यता प्राप्त परिसंस्थांचे मा. संचालक आणि
मा.विभाग प्रमुख विद्यापीठ शैक्षणिक प्रशाळा / विभाग यांना...

विषय :- Environmental Studies या विषयाचे अभ्यासक्रमा संदर्भात.

महोदय / महोदया,

उपरोक्त विषयांस अनुसरुन आपणांस कळविण्यात येते की, मा.सर्वोच्च न्यायालयाचे निर्णयानुसार पर्यावरण संतुलन राखण्यासाठी प्रथम वर्षास प्रवेशित विद्यार्थ्यांसाठी सहा महिन्यांचा पर्यावरणशास्त्र विषयाचा अभ्यासक्रम जून, २००४ पासून सर्व विद्याशाखांमध्ये समाविष्ट करण्यात आलेला आहे.

शैक्षणिक वर्ष २०१८-१९ पासून प्रथम वर्ष कला विज्ञान व वाणिज्य वर्गांना Choice Based Credit System लागू करण्यात आलेली असल्याने Environmental Studies या विषयाचा अभ्यासक्रम Ability Enhancement Course अंतर्गत Choice Based Credit System प्रमाणे तयार करणेसाठी नियुक्त समितीच्या सभेत Environmental Studies विषयाच्या गुणांची विभागणी (Marks Pattern) देखील ६०:४० प्रमाणे करण्यात यावी, व गुणांकन (Marks Pattern) पुढील प्रमाणे करण्यात यावे, असे ठरले आहे.

लेखी परीक्षा (Theory)		**६० गुण**
अंतर्गत (Internal) परीक्षा फिल्ड वर्क /व्हायवा		**४० गुण**
	एकूण	**१०० गुण**
अंतर्गत ४० गुणांची विभागणी पुढील प्रमाणे करण्यात यावी.		
उपस्थिती (Attendance)	०५ गुण	
वर्तणूक (Behaviour)	०५ गुण	
व्हायवा (Viva-voce)	१० गुण	
फिल्ड वर्क (Report of field Work)	२० गुण	
	४० गुण	

त्याअनुषंगाने Environmental Studies या विषयाचा अभ्यासक्रम विद्यापीठ अनुदान आयोगाने दिलेला असून तो जसाचे तसा लागू करण्यात आलेला असल्याने अभ्यासक्रमात बदल न करता अभ्यासक्रम तोच ठेवण्यात आला आहे. सदरचा अभ्यासक्रम उमविच्या संकेत स्थळावर अपलोड करण्यात आला आहे. तरी वरील आशय सर्व संबंधित प्राध्यापक व विद्यार्थी यांचे निदर्शनास आणून देवून पुढील योग्य ती कार्यवाही करुन विद्यापीठास सहकार्य करावे, ही विनंती.

म.कळावे,

आपला विश्वासू,

(ए.सी.मनोरे)
उपकुलसचिव
अभ्यास मंडळ विभाग

☎ : (९१) ०२५७- २२५७२९४, २९७
फॅक्स : (९१) ०२५७- २२५८४०६
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Six Months Module Syllabus for Environmental Studies for Under Graduate Courses

UNIVERSITY GRANTS COMMISSION
BAHADURSHAH ZAFAR MARG
NEW DELHI- 110 002

2003

CORE MODULE SYLLABUS FOR ENVIRONMENTAL STUDIES FOR UNDER GRADUATE COURSES OF ALL BRANCHES OF HIGHER EDUCATION

Vision

The importance of environmental science and environmental studies cannot be disputed. The need for sustainable development is a key to the future of mankind. Continuing problems of pollution, loss of forget, solid waste disposal, degradation of environment, issues like economic productivity and national security, Global warming, the depletion of ozone layer and loss of biodiversity have made everyone aware of environmental issues. The United Nations Coference on Environment and Development held in Rio de Janerio in 1992 and world Summit on Sustainable Development at Johannesburg in 2002 have drawn the attention of people around the globe to the deteriorating condition of our environment. It is clear that no citizen of the earth can afford to be ignorant of environment issues. Environmental management has captured the attention of health care managers. Managing environmental hazards has become very important.

Human beings have been interested in ecology since the beginning of civilization. Even our ancient scriptures have emphasized about practices and values of environmental conservation. It is now even more critical than ever before for mankind as a whole to have a clear understanding of environmental concerns and to follow sustainable development practices.

India is rich in biodiversity which provides various resources for people. It is also basis for biotechnology.

Only about 1.7 million living organisms have been diescribed and named globally. Still manay more remain to be identified and described. Attempts are made to

conserve them in ex-situ and in-situ situations. Intellectual property rights (IPRs) have become importanat in a biodiversity-rich country like India to protect microbes, plants and animals that have useful genetic properties. Destruction of habitats, over-use of energy resource and environmental pollution have been found to be responsible for the loss of a large number of life-forms. It is feared that a large proportion of life on earth may get wiped out in the near future.

Inspite of the deteriorating status of the environment, study of environment have so far not received adequate attention in our academic programmes. Recognizing this, the Hon'ble Supreme Court directed the UGC to introduce a basic course on environment at every level in college education. Accordingly, the matter was considered by UGC and it was decided that a six months compulsory core module course in environmental studies may be prepared and compulsorily implemented in all the University/Colleges of India.

The experts committee appointed by the UGC has looked into all the pertinent questions, issues and other relevant matters. This was followed by framing of the core module syllabus for environmental studies for undergraduate courses of all branches of Higher Education. We are deeply conscious that there are bound to be gaps between the ideal and real. Geniune endeavour is required to minimize the gaps by intellectual and material inputs. The success of this course will depend on the initiative and drive of the teachers and the receptive students.

SYLLABUS

Unit 1 : Multidisciplinary nature of environmental studies

Definition, scope and importance

(2 lectures)

Need for public awareness.

Unit 2 : Natural Resources :

Renewable and non-renewable resources :
Natural resources and associated problems.

a) Forest resources : Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forest and tribal people.

b) Water resources : Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.

c) Mineral resources : Use and exploitation, environmental effects of extracting and using mineral resources, case studies.

d) Food resources : World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.

e) Energy resources : Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources. Case studies.

f) Land resources : Land as a resource, land degradation, man induced landslides, soil erosion and desertification.

- Role of an individual in conservation of natural resources.
- Equitable use of resoureces for sustainable lifestyles.

(8 lectures)

Unit 3 : Ecosystems

- Concept of an ecosystem.

- Structure and function of an ecosystem.
- Producers, consumers and decomposers.
- Energy flow in the ecosystem.
- Ecological succession.
- Food chains, food webs and ecological pyramids.
- Introduction, types, characteristic features, structure and function of the following ecosystem :-
  a. Forest ecosystem
  b. Grassland ecosystem
  c. Desert ecosystem
  d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

(6 lectures)

Unit 4 : Biodiversity and its conservation

- Introduction – Definition : genetic, species and ecosystem diversity.
- Biogeographical classification of India
- Value of biodiversity : consumptive use, productive use, social, ethical, aesthetic and option values
- Biodiversity at global, National and local levels.
- Inida as a mega-diversity nation

- Hot-sports of biodiversity.
- Threats to biodiversity : habitat loss, poaching of wildlife, man-wildlife conflicts.
- Endangered and endemic species of India
- Conservation of biodiversity : In-situ and Ex-situ conservation of biodiversity.

(8 lectures)

Unit 5 : Environmental Pollution

Definition

- Cause, effects and control measures of :-
    a. Air pollution
    b. Water pollution
    c. Soil pollution
    d. Marine pollution
    e. Noise pollution
    f. Thermal pollution
    g. Nuclear hazards
- Solid waste Management : Causes, effects and control measures of urban and industrial wastes.
- Role of an individual in prevention of pollution.
- Pollution case studies.
- Diaster management : floods, earthquake, cyclone and landslides.

(8 lectures)

Unit 6 : Social Issues and the Environment

- From Unsustainable to Sustainable development
- Urban problems related to energy
- Water conservation, rain water harvesting, watershed management
- Resettlement and rahabilitation of people; its problems and concerns. Case Studies
- Environmental ethics : Issues and possible solutions.
- Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies.
- Wasteland reclamation.
- Consumerism and waste products.
- Environment Protection Act.
- Air (Prevention and Control of Pollution) Act.
- Water (Prevention and control of Pollution) Act
- Wildlife Protection Act
- Forest Conservation Act
- Issues involved in enforcement of environmental legislation.
- Public awareness.

(7 lectures)

Unit 7 : Human Population and the Environment

- Population growth, variation among nations.
- Population explosion – Family Welfare Programme.

- Environment and human health.
- Human Rights.
- Value Education.
- HIV/AIDS.
- Women and Child Welfare.
- Role of Information Technology in Environment and human health.
- Case Studies.

(6 lectures)

Unit 8 : Field work

- Visit to a local area to document environmental assets-river/forest/grassland/hill/mountain
- Visit to a local polluted site-Urban/Rural/Industrial/Agricultural
- Study of common plants, insects, birds.
- Study of simple ecosystems-pond, river, hill slopes, etc. (Field work Equal to 5 lecture hours)

SIX MONTHS COMPULSORY CORE MODULE COURSE IN ENVIRONMENTAL STUDIES : FOR UNDERGRADUATES

Teaching Methodologies

The core Moudle Syllabus for Environment Studies includes class room teaching and Field Work. The syllabus is divided into eight units covering 50 lectures. The first seven units will cover 45 lectures which are class room based to enhance knowledge skills and attitute to environment. Unit eight is based on field activites which will be covered in five lecture hours and would provide student first hand knowledge on varios local environmental aspects. Field experience is one of the most effective learning tools for environmental concerns. This moves out of the scope of the text book mode of teaching into the realm of real learning in the field, where the teacher merely acts as a catalyst to interpret what the student observes or discovers in his/her own environment. Field studies are as essential as class work and form an irreplaceable synergistic tool in the entire learning process.

Course material provided by UGC for class room teaching and field activities be utilized.

The universities/colleges can also draw upon expertise of outside resource persons for teaching purpose.

Environmental Core Module shall be integrated into the teaching programmes of all undergraduate courses.

Annual System : The duration of the course will be 50 lectures. The exam will be conducted along with the Annual Examination.

Semester System : The Environment course of 50 lectures will be conducted in the second semester and the examination shall be conducted at the end of the second semester.

Credt System : The course will be awarded 4 credits.

Exam Pattern : In case of awarding the marks, the question paper should carry 100 marks. The structure of the question paper being :

Part-A, Short answer pattern	-	20 marks
Part-B, Essay type with inbuilt choice	-	40 marks
Part-C, Field Work	-	40 marks

REFERENCE

a) Agarwal, K.C. 2001 Environmental Biology, Nidi Publ. Ltd. Bikaner.

b) Bharucha Erach, The Biodiversity of India, Mapin Publishing Pvt. Ltd., Ahmedabad – 380 013, India, Email:mapin@icenet.net (R)

c) Brunner R.C., 1989, Hazardous Waste Incineration, McGraw Hill Inc. 480p

d) Clark R.S., Marine Pollution, Clanderson Press Oxford (TB)

e) Cunningham, W.P. Cooper, T.H. Gorhani, E & Hepworth, M.T. 2001, Environmental Encyclopedia, Jaico Publ. House, Mumabai, 1196p

f) De A.K., Environmental Chemistry, Wiley Eastern Ltd.

g) Down to Earth, Centre for Science and Environment (R)

h) Gleick, H.P. 1993. Water in crisis, Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env. Institute Oxford Univ. Press. 473p

i) Hawkins R.E., Encyclopedia of Indian Natural History, Bombay Natural History Society, Bombay (R)

j) Heywood, V.H & Waston, R.T. 1995. Global Biodiversity Assessment. Cambridge Univ. Press 1140p.

k) Jadhav, H & Bhosale, V.M. 1995. Environmental Protection and Laws. Himalaya Pub. House, Delhi 284 p.

l) Mckinney, M.L. & School, R.M. 1996. Environmental Science systems & Solutions, Web enhanced edition. 639p.

m) Mhaskar A.K., Matter Hazardous, Techno-Science Publication (TB)

n) Miller T.G. Jr. Environmental Science, Wadsworth Publishing Co. (TB)

o) Odum, E.P. 1971. Fundamentals of Ecology. W.B. Saunders Co. USA, 574p

p) Rao M N. & Datta, A.K. 1987. Waste Water treatment. Oxford & IBH Publ. Co. Pvt. Ltd. 345p.

q) Sharma B.K., 2001. Environmental Chemistry. Geol Publ. House, Meerut

r) Survey of the Environment, The Hindu (M)

s) Townsend C., Harper J, and Michael Begon, Essentials of Ecology, Blackwell Science (TB)

t) Trivedi R.K., Handbook of Environmental Laws, Rules Guidelines, Compliances and Stadards, Vol I and II, Enviro Media (R)

u) Trivedi R. K. and P.K. Goel, Introduction to air pollution, Techno-Science Publication (TB)

v) Wanger K.D., 1998 Environmental Management. W.B. Saunders Co. Philadelphia, USA 499p

(M) Magazine
(R) Reference
(TB) Textbook

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Kavayitri Bahinabai Chaudhari
North Maharashtra University, Jalgaon
'A' Grade NAAC Re-Accredited (3rd Cycle)

FACULTY OF COMMERCE AND MANAGEMENT

Structure, Equivalence and Syllabus
of
Master of Management Studies
(Computer Management)
M.M.S. (C.M.)
(CBCS Pattern)
(w.e.f.: 2021-22)

Choice Based Credit System
(Outcome Based Curriculum)

Kavayitri Bahinabai Chadhari North Maharashtra University, Jalgaon

'A' Grade NAAC Re-Accredited (3rd Cycle)

FACULTY OF COMMERCE & MANAGEMENT

Structure of

Master of Management Studies (Computer Management) - MMS (CM)

(CBCS) w.e.f. 2021-22 , Semester - I

Course Code	Course Type	Title of the Course	Contact hours/week			Distribution of Marks for Examination						Credits
						Internal		External		Total		
			Th(L)	Pr	Total	Th	Pr	Th	Pr	Th	Pr	
1.1	Core	Principles of Management	04	--	04	40	--	60	--	100	--	04
1.2	**Skill Based**	Financial Accounting	04	--	04	40	--	60	--	100	--	04
1.3	Core	Web Designing and Web Authoring Tools	04	--	04	40	--	60	--	100	--	04
1.4	Core	ICT fundamentals & Office Automation	04	--	04	40	--	60	--	100	--	04
1.5	Core	Programming in C	04	--	04	40	--	60	--	100	--	04
1.6	**Skill Based**	Lab I-Practical on Tally ERP & Web Designing	04	--	04	--	40	--	60	--	100	04
1.7	**Skill Based**	Lab II-Practical on Office Automation &C Programming	04	--	04	--	40	--	60	--	100	04
AC-101	**Audit Course**	**Practicing Cleanliness**		**02**	**02**		**100**	**--**	**--**	**--**	**100**	**02**

Kavayitri Bahinabai Chadhari North Maharashtra University, Jalgaon

'A' Grade NAAC Re-Accredited (3rd Cycle)

FACULTY OF COMMERCE & MANAGEMENT

Structure of

Master of Management Studies (Computer Management) - MMS (CM)

(CBCS) w.e.f. 2021-22 , Semester – II

Course Code	Course Type	Title of the Course	Contact hours/week			Distribution of Marks for Examination						Credits
						Internal		External		Total		
			Th(L)	Pr	Total	Th	Pr	Th	Pr	Th	Pr	
2.1	**Skill Based**	Communication Skills	04	--	04	40	--	60	--	100	--	04
2.2	Core	Management Information System	04	--	04	40	--	60	--	100	--	04
2.3	Core	System Analysis and Design	04	--	04	40	--	60	--	100	--	04
2.4	Core	RDBMS	04	--	04	40	--	60	--	100	--	04
2.5	Core	Object Oriented Programming using C++	04	--	04	40	--	60	--	100	--	04
2.6	**Skill Based**	Lab III-Practical on RDBMS	04	--	04	--	40	--	60	--	100	04
2.7	**Skill Based**	Lab IV-Practical on C++	04	--	04	--	40	--	60	--	100	04
AC-201	**Audit Course** (Choose One)	**Personality and Cultural Development** AC-201A - Soft Skills AC-201B - Sport Activities AC-201C - Yoga AC-201D - Music		**02**	**02**		**100**	**--**	**--**	**--**	**100**	**02**

Kavayitri Bahinabai Chadhari North Maharashtra University, Jalgaon

'A' Grade NAAC Re-Accredited (3rd Cycle)

FACULTY OF COMMERCE & MANAGEMENT

Structure of

Master of Management Studies (Computer Management) - MMS (CM)

(CBCS) w.e.f. 2022-23 , Semester – III

Course Code	Course Type	Title of the Course	Contact hours/week			Distribution of Marks for Examination						Credits
						Internal		External		Total		
			Th(L)	Pr	Total	Th	Pr	Th	Pr	Th	Pr	
3.1	Core	CRM & Digital Marketing	04	--	04	40	--	60	--	100	--	04
3.2	Core	Cyber Security and IT Act	04	--	04	40	--	60	--	100	--	04
3.3	**Skill Based**	Graphics & Animation	04	--	04	40	--	60	--	100	--	04
3.4	Core	Web Scripting with PHPand MySQL	04	--	04	40	--	60	--	100	--	04
3.5	Core	C#.NET Programming	04	--	04	40	--	60	--	100	--	04
3.6	**Skill Based**	Lab V-Practical on Graphics& Animation & PHP	04	--	04	--	40	--	60	--	100	04
3.7	**Skill Based**	Lab VI-Practical on C#.NetProgramming	04	--	04	--	40	--	60	--	100	04
AC-301	**Audit Course**	**Technology + Value Added Courses** AC-301A - Computer Skills AC-301B - Cyber Security AC-301C - Seminar + Review Writing		**02**	**02**		**100**	**--**	**--**	**--**	**100**	**02**

Kavayitri Bahinabai Chadhari North Maharashtra University, Jalgaon

'A' Grade NAAC Re-Accredited (3rd Cycle)

FACULTY OF COMMERCE & MANAGEMENT

Structure of

Master of Management Studies (Computer Management) - MMS (CM)

(CBCS) w.e.f. 2022-23 , Semester - IV

Course Code	Course Type	Title of the Course	Contact hours/week			Distribution of Marks for Examination						Credits
						Internal		External		Total		
			Th(L)	Pr	Total	Th	Pr	Th	Pr	Th	Pr	
4.1	Core	Human Resource Management	04	--	04	40	--	60	--	100	--	04
4.2	Core	E-commerce and M-commerce	04	--	04	40	--	60	--	100	--	04
4.3	Core	Internet Computing with ASP.NET	04	--	04	40	--	60	--	100	--	04
4.4	Core	Java Programming	04	--	04	40	--	60	--	100	--	04
4.5	**Skill Based**	Project Work	04	--	04	--	40	--	60	--	100	04
4.6	**Skill Based**	Lab VII-Practical on ASP.NET	04	--	04	--	40	--	60	--	100	04
4.7	**Skill Based**	Lab VIII-Practical on Java Programming	04	--	04	--	40	--	60	--	100	04
AC-401	**Audit Course**	**Professional and Social Value Added Courses** AC-401A - Human Rights AC-401B - Current Affairs AC-401C - Seminar + Review Writing AC-401D - Intellectual Property Rights (IPR)		**02**	**02**		**100**	**--**	**--**	**--**	**100**	**02**

EQUIVALENCE OF OLD AND NEW COURSES FOR M.M.S. (C.M.)

Old Paper	Old courses (w.e.f.- 2017-18) **MBM (CM)**	New Paper	New courses (w.e.f.- AY 2021-22) **MMS(CM)**
Semester-I			
1.1	Principles of Management	1.1	Principles of Management
1.2	Financial Accounting	1.2	Financial Accounting
1.3	Web Designing and Web Authoring Tools	1.3	Web Designing and Web Authoring Tools
1.4	ICT fundamentals & Office Automation	1.4	ICT fundamentals & Office Automation
1.5	Programming in C	1.5	Programming in C
1.6	Lab I-Practical on Tally ERP& Web Designing	1.6	Lab I-Practical on Tally ERP& Web Designing
1.7	Lab II-Practical on Office Automation & C Prog.	1.7	Lab II-Practical on Office Automation & C Prog.
Semester – II			
2.1	Communication Skills	2.1	Communication Skills
2.2	Management Information System	2.2	Management Information System
2.3	System Analysis and Design	2.3	System Analysis and Design
2.4	RDBMS	2.4	RDBMS
2.5	Object Oriented Programming using C++	2.5	Object Oriented Programming using C++
2.6	Lab III-Practical on RDBMS	2.6	Lab III-Practical on RDBMS
2.7	Lab IV-Practical on C++	2.7	Lab IV-Practical on C++
Semester – III			
3.1	CRM & Digital Marketing	3.1	CRM & Digital Marketing
3.2	Cyber Security and IT Act	3.2	Cyber Security and IT Act
3.3	Graphics & Animation	3.3	Graphics & Animation
3.4	Web Scripting with PHPand MySQL	3.4	Web Scripting with PHPand MySQL
3.5	C#.NET Programming	3.5	C#.NET Programming
3.6	Lab V-Practical on Graphics& Animation & PHP	3.6	Lab V-Practical on Graphics& Animation & PHP
3.7	Lab VI-Practical on C#.NetProgramming	3.7	Lab VI-Practical on C#.NetProgramming
Semester - IV			
4.1	Human Resource Management	4.1	Human Resource Management
4.2	E-commerce and M-commerce	4.2	E-commerce and M-commerce
4.3	Internet Computing with ASP.NET	4.3	Internet Computing with ASP.NET
4.4	Java Programming	4.4	Java Programming
4.5	Project Work	4.5	Project Work
4.6	Lab VII-Practical on ASP.NET	4.6	Lab VII-Practical on ASP.NET
4.7	Lab VIII-Practical on Java Prog.	4.7	Lab VIII-Practical on Java Programming

Kavayitri Bahinabai Chaudhari
North Maharashtra University, Jalgaon

(NAAC Reaccredited 'A' Grade University)

FACULTY OF COMMERCE and MANAGEMENT

STRUCTURE OF MASTER IN MANAGEMENT STUDIES. M.M.S (C.M.)

W.E.F.A.Y. 2021-22

1. TITLE OF THE DEGREE

This degree shall be titled as Master in Management Studies(Computer Management)i.e.MMS (CM).This new curriculum shall be effective from Academic year 2021-22.

2. OBJECTIVES

The main objective of MMS(CM) is to develop future managers/software developers/office support professionals,who would meet,the dynamic needs of the industry in a competitive and challenging environment. The program aims at providing expertise to students in different office support system and software development area.

The broad objectives of the Program are:

i. To equip thes tudents with requisite knowledge,skills and right attitude necessary to provide effective software development skills in a global environment.

ii. To prepare students for respectable career in the Software Design, Development & Testing.AlsoinSoftwareSupport,e-commerce,e-business,e-banking,eservices,e-governance etc.

iii. To develop inter-twining competence in the field of Commerce and Management, Computing Skill and Computational Tools.

3. DURATION

The regular Full Time Course shall be of 2 Years duration; comprising of 4 Semesters through Theory papers, Practical, Project report, Viva-voce, and such other Continuous Evaluation Systems as may be prescribed, in this respect, from time to time.

4. ELIGIBILITY FORADMISSION

As per admission rules framed by the K.B.C. North Maharashtra University, Jalgaon

5. PATTERN

5.1. The suggested curriculum comprises 28 papers.

5.2. Each semester will have 7 papers of 4 credits each, thus comprising 28 credits for each Semester that is 112 credits for whole MMS (CM) Degree Course

5.3. One credit for the theory course shall be of the 15 clock hours (Each course being taught in the semester will be of 4 credits) that is each course will be of 60 hours.

5.4. Continuous evaluation of the students shall comprise the 60+40 pattern; where every paper of 100 marks (4 credits), shall be divided as External evaluation of 60 marks and internal continuous assessment of 40 marks.

5.5. 4 credits shall be awarded to the 4.5 Project Report and Viva-Voce. The marks and the credits will be allotted in IV Semester.

5.6. Academic calendar showing dates of commencement and end of teaching, internal assessment tests shall be duly notified before commencement of each semester every year by the Institute/College.

5.7. The external assessment shall be based on external written examination to be conducted by the University at the end of each semester.

5.8. The student shall not be allowed to appear for the semester examination unless the Head/Director of the Department/Institution certifies completion of internal work, regularity, practical etc. The institution / Department shall submit alongwith this certificate Internal marks to 'The Director, Examination and Evaluation' of the University.

6. Evaluation of the student:

6.1. The evaluation of the student shall be divided into two parts viz. Internal Assessment and Semester examination with a weightage in the ratio of 40:60.

6.2. Standard of passing –

6.2.1. In order to pass the examination, the candidate has to obtain at least 40% marks for each head separately, that is 24 marks out of 60 (External) & 16 marks out of 40 marks (Internal) for all courses.

6.2.2. Minimum marks for passing the Lab and Project Report and Viva Voce i.e. the marks obtained in internal examination and external Viva Voce shall be 50% separately.

6.3. The distribution of marks for each theory paper of 4 credits at term (Semester) end examination and for continuous internal assessment shall be as follows:

Theory Examination	**Maximum marks**
Internal assessment	40
External assessment	60
Total marks	**100**

6.4. **Internal Assessment:**

6.4.1.For the internal assessment, 40 marks shall be assigned which includes:

Heads	Marks	Evaluating Authority
Internal test-I	10	Concerned Faculty
Internal test-II	10	
Attendance, Behavior and classroom participation.	10	
Assignments	10	
Total marks	**40**	

6.4.1.1. Two internal tests of 10 Marks each shall be conducted by the subject teacher. The duration of the each test will be of 30 minutes.

6.4.1.2. Ten Marks for continuous Evaluation through regular Attendance, behavior and classroom participation,

6.4.1.3. Ten Marks for Classroom Paper Presentation, Special Assignments, Research Paper Presentations, Publications in Journals, Practical (Computer related courses), Presentations of software, Group Discussions, Book Review, Active participation in activities, Visit to Business/software Exhibition etc. In related subjects (at least one activity has to be completed by the student per semester per paper to be supervised and guided by the concerned subject teacher).

6.4.2. The marks for each test shall be displayed on notice board within 15 days of conducting the test.

6.4.3. It is mandatory to show the answer sheets of all tests to the students on demand.

6.5. **Semester examination:**

6.5.1. The Semester examination for 60 marks per subject would be held after completion of teaching for the semester and as per Timetable declared by North Maharashtra University.

6.5.2. Each theory paper comprising of 60 marks shall be of three hours duration.

7. Grades:

7.1. Marks for each course would be converted into grade points as per **Seven-Point** grading scale as stated in the following table.

Table 1 Table Showing Conversion of Marks into grade points

Marks Obtained	Grade	Equivalent Grade points
75 to 100	O : Outstanding	6
65 to 74	A : Very Good	5
55 to 64	B : Good	4
50 to 54	C : Average	3
45 to 49	D : Satisfactory	2
40 to 44	E : Pass	1
0 to 39	F : Fail	0

7.2. Every paper carries maximum of 6 grade points. Similarly, each paper carries 4 credit points. Thus, each paper carries maximum of 24 CR x GP points.

7.3. One semester carries 7 papers of 24 CR x GP points each. Thus, every semester carries maximum of 168 CR x GP points.

7.4. The MMS(CM)programme consists of 4 semesters, each carrying 168 CR x GP points. Thus, The MMS(CM) programme in all carries maximum of 672 CR x GP points.

7.5. The grade point will be given on the basis of total marks (sum of mark obtained in internal assessment and Semester examination) obtained by a student in a subject.

7.6. The CR x GP points earned in each course shall be calculated as –

Total CR x GP points = Grade points obtained (vide Table-1) x Credits for the course

7.7. Semester Grade Point Average (SGPA) –

7.7.1. The performance of a student in a semester is indicated by a number called SGPA. SGPA is the weighted average of the grade points obtained in all courses registered by the student during the semester. It shall be calculated as follows-

$$SGPA = \frac{\sum_{i=1}^{n} C_i p_i}{\sum_{i=1}^{n} C_i} = \frac{\sum_{i=1}^{n} 4p_i}{28}$$

Where,

C_i = the maximum number of credits prescribed for the i^{th} course of a semester for which SGPA is to be calculated

p_i = grade point earned in the i^{th} course

i = 1,2,3……n represent the number of courses in which a student is registered in the concerned semester.

That is,

$$SGPA = \frac{\textbf{Total CR x GP points earned for the Semester}}{\textbf{Total Credit points for the Semester}}$$

SGPA is rounded up to two decimal places.

7.8. **Final result**

Up-to-date assessment of the overall performance of a student from the time of his/her first registration is obtained by calculating a number called Cumulative Grade Point Average (CGPA), which is a weighted average of the grade points obtained in all courses registered by the student since he/she has been admitted to the **MMS (CM)** course.

$$CGPA = \frac{\sum_{j=1}^{m} C_j p_j}{\sum_{j=1}^{m} C_j}$$

Where

C_j= the number of credits earned in the jth course up to the semester

p_j = grade point earned in the jth course.

A letter grade lower than E (i.e. grade point < 1) in a course shall not be taken into consideration for the calculation of CGPA

j= 1, 2,3……m represent the number of courses in which a student is registered up-to the semester for which the CGPA is to be calculated

The CGPA is rounded up to two decimal places.

7.9. The final grade earned shall be as per Table given below-

Final grade to be awarded and equivalent percentage of marks of the candidate based on his/her CGPA

CGPA Value	Final Grade to be awarded to the candidate	Equivalent range for percentage of marks	Formula for obtaining equivalent approximate percentage of marks
5.50-6.00	0: Outstanding	75-100	$75 + \left\{\frac{(CGPA - 5.5)}{0.02}\right\}$
4.50-5.49	A: Very Good	65-74	$65 + \left\{\frac{(CGPA - 4.5)}{0.02}\right\}$
3.50-4.49	B: Good	55-64	$55 + \left\{\frac{(CGPA - 3.5)}{0.02}\right\}$
2.50-3.49	C: Average	50-54	$50 + \left\{\frac{(CGPA - 2.5)}{0.02}\right\}$
1.50-2.49	D: Satisfactory	45-49	$45 + \left\{\frac{(CGPA - 1.5)}{0.02}\right\}$
1.00-1.49	E: Pass	40-44	$40 + \left\{\frac{(CGPA - 1.0)}{0.02}\right\}$
0.00-0.99	F: Fail	00-39	Not Applicable

8. PASSING STANDARDS

8.1. In order to get through the examination, a candidate shall have to secure minimum of 40% of the marks allotted to each subject(i.e. 16 marks out of 40 marks (Internal) and 24 marks out of 60 (External) for all subjects).

8.2. The student shall be allowed to keep the terms of the next year as per the University rules.

9. GUIDELINES FOR TEACHING

9.1. There shall be atleast 60 lecture hours (including internal assessment) per semester per course. The duration of the lectures shall be 60 minutes each. There shall be atleast 15 weeks of teaching before commencement of examination of respective semester.

9.2. There shall be 4 lectures / week / paper.

9.3. The semester workload is balanced with 7 full papers of 100 marks each / semester. Thus, 420 lectures hours are considered for teaching sessions and continuous assessment.

9.4. Self-study shall be natural requirement beside the time table. The Faculty will have to exert a little extra for cultivating reading habits amongst the students.

9.5. The teaching method shall comprise a mix of Lectures, Practical, demos, Seminars, Group discussions, Brain storming, Game playing, Interactions with Executives etc. so as to prepare the students to face the global challenges as business executive for this Audio-visual aids and Practical field work should be a major source of acquiring knowledge.

9.6. Institute may use a combination of various teaching methods such as cases, projects, independent studies, computer aided instructions, group discussions, lectures, seminars, presentations by students, and lectures by guest speakers from industry and government, workshops. The case method/ software demonstration is generally seen as a most effective tool, and it should be included as part of the curriculum teaching as far as possible. This sharpens analytical skills of students and helps analyze problems from multi-functional perspectives. Case study method preferably shall be used wherever possible for the better understanding of the students.

9.7. Each institute shall issue annual souvenir as well as a placement brochure separately to each student and a copy of the same shall be submitted to the university before the end of the year.

10. GUIDELINES FOR PROJECT

10.1. Each student will have to develop software individually.

10.2. In the Fourth semester examination, student shall submit “Project Report”. The topic should be decided with consultation and guidance of internal guide of the Institute/college.

10.3. The institute / College shall submit the detailed list of candidate to the University with Project Titles, name of the organization, internal guide and functional elective on or before 31st January of the second year.

10.4. Teacher shall not be entrusted/allowed to take more than 15 students for guidance and supervision of project report.

10.5. The student has to write a report based on the actual work of software development, get it certified by the concerned teacher that the Project report has been satisfactorily completed and shall submit one typed copy of the same to the Head / Director of the institute along with 1 CD of Project Report. In order to save the paper, both side printing is allowed.

10.6. It is responsibility of concerned Institute to check the authenticity of Project.

10.7. CD submitted by the student shall be forwarded to the University by the Institute before the deadline mentioned in University circular.

10.8. Project viva voce shall be conducted at the end of Semester IV.

10.9. The project work will carry a maximum 100 marks, of which internal teacher shall give marks out 40 on the basis of project work done by the student as a internal assessment. Viva voce of 60 marks will be conducted by the panel of the external examiners to be appointed by the University.

10.10. No students will be permitted to appear for Viva-voce and Semester IV examinations, unless and until (s) he submits the project report before the stipulated time.

11. STRUCTURE OF THE QUESTION PAPER

11.1. Each question paper shall be of 60 marks and of 3 hours duration.

11.2. **For Theory papers** there will be 2 Sections. In section I, a candidate shall be required to answer 3 questions out of 5 questions and in section II, student shall be required to answer 2 questions out of 3 questions. All questions shall carry equal marks i.e. 12 marks each.

11.3. **For Lab**, the student will have to perform the assigned practical within of 3 hours.

12. ELIGIBILITY OF THE FACULTY

Strictly As per norms fixed by the UGC (www.ugc.ac.in) , AICTE and K.B.C. North Maharashtra University, Jalgaon

(www.nmu.ac.in)

For all Commerce & Management related subjects :

First Class MBA / M.Com or equivalent.

For Computer Related subjects:

First Class MCM/MBM(CM)/MMS(CM)/MCA/ MBA(IT & Systems)

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

(NAAC Re-Accredited 'A' Grade University)

FACULTY OF COMMERCE & MANAGEMENT

MMS (Computer Management) Semester-I

w.e.f. 2021-22

1.1 Principles of Management

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective: To acquaint the students with the basic Business Management concept & process.

UNIT 1: Nature and Development of Management **[10]**

a. Management: Concept, Nature, Importance
b. Evolution of Management: Introduction to Scientific Management by Taylor, Administrative Management by Fayol, Contribution of Peter Drucker

UNIT 2: Management Functions – I **[10]**

a. Functions of Management, Levels of Management, Managerial Skills & roles
b. Planning: Nature, Scope, Objective and Significances of Planning, Key factors to planning, Types of Plans, Process of Planning.
c. Decision Making – Types of Decision, decision making processes, Individual Vs Group decision making, Information Technology & Decision Making

UNIT 3: Management Functions - II **[10]**

a. Organizing: Concept, Organization Structure, Forms of Organizational Structure
b. Departmentation- need, importance & bases of Departmentation, Span of Control Determination of factors affecting Span of Control, Delegation of Authority, Authority & Responsibility, Line & Staff, and Formal & Informal Organization.
c. Staffing: Concept, Manpower Planning.

UNIT 4: Management Functions - III **[10]**

a. Directing: Concept, Direction and Supervision, Importance of Directing, Principles of Directing.
b. Coordination – Need & Importance, Coordination & Cooperation,
c. Controlling: Concept, Types of control.

UNIT 5: Management Practices **[10]**

a. Concepts of – Kaizen, Six Sigma, Theory Z, SWOT analysis, Business Process Outsourcing, Knowledge management.

UNIT 6: Organizational Communication Skills - I **[10]**

b. Meaning & Importance of Organizational Communication

c. Internal communication: Notice, Circular, Memo.
d. External Communication – Enquiries, Quotations, Bank & Financial Institutions
e. Letter writing: Layout of Business letter, types of layouts, Essentials of Good Business Letters, Attitude in Business writing
f. Purpose of letters: Resume, Application

REFERENCE BOOKS:

1. Koontz, "Principles Of Management", 1st Edition, Tata McGraw Hill, 2008
2. Stoner , Freeman & Gilbert Jr, "Management", 6th Edition, Prentice Hall Of India
3. Robbins & Coulter, "Management", 8th Edition, Prentice Hall Of India
4. Robbins S.P And Decenzo David A, "Fundamentals Of Management : Essential Concept And Applications",. 5th Edition, Pearson Education
5. L.M.Prasad, "Principals Of Management", Himalaya Publications
6. Dr. Manmohan Prasad, "Management: Concepts & Practices", Himalaya Publications
7. Weihrich Heinz And Koontz Harold, "Management: A Global And Entrepreneurial Perspective", 12th Edition, McGraw Hill, 2008
8. Penrose / Rasberry / Myers, "Business Communication for Managers", Cenage Learning.
9. Raman & Singh, "Business Communication", Oxford Publication.
10. C.S. Raydu, "Business Communication", Himalaya Publishing House

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MMS (Computer Management) Semester-I

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1.2 Financial Accounting

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective: To prepare students about important financial accounting concepts and understand usage of Tally ERP software.

UNIT 1: Basic Concepts **[10]**

a. Accounting Concepts & Conventions.
b. Basic Accounting Terms.

UNIT 2: Elements of Accounts **[10]**

a. Types of Accounts- Personal, Impersonal: Real and Nominal
b. Rules for recording journal entries for different types of accounts
c. Journals, Ledgers, Trial Balance, Cash Book – Cash Book with Cash and Bank Column
d. Adjustment Entries and Final Account of Sole Traders

UNIT 3: Rectification of Errors **[10]**

a. Introduction
b. Types of Errors- Errors of Omission, Commission, Error of Principles, Compensating error
c. Suspense Account

UNIT 4: Bank Reconciliation Statement **[10]**

a. Need, Causes of Disagreement, Preparation of Bank Reconciliation Statement

UNIT 5: Tally Accounting Package **[10]**

a) Introduction To Tally :

a. Features Of Tally Software (ERP)
b. Starting Tally - Gateway Of Tally And Exit From Tally
c. Company Creation in Tally, Saving the Company Profile, Alteration / Deletion Of Company, Selection of Company
d. Account Groups and Ledgers
e. Hierarchy Of Account Groups And Ledgers, Reserved Account Groups,
f. Account Groups Of Balance Sheet – Account Groups Of Liabilities & Assets
g. Account Groups Of Profit & Loss Account - Account Groups Of Direct Income And Direct Expenses Apart From Sale And Purchases, Indirect Income And Indirect Expenses

h. Account Masters - Account Groups Creation and Account Ledgers Creation ix) Feeding of Opening Balances
i. Alteration / Deletion Of Account Master Records
xi) Feeding of Closing Stock Value

b) Tally: Voucher Entry

a. Types Of Vouchers In Tally - Contra, Receipts, Payments And Journal
b. Entering Account Voucher - Sales, Purchases, Debit Note, Credit Note, Incomes, Expenses, Voucher Modification, Saving The Voucher
c. Voucher Alteration, Deletion and Cancellation, Single Mode Voucher Entries, Account
d. Voucher Printing - Online Voucher Printing, Multi Voucher Printing iv) Displaying Voucher List, Day Book, Ledger v) Extracting Daybook Summaries

c) Tally: Trial Balance And Final Accounts

a. Extracting Detailed Trial Balance, Exploded Trial Balance And Ledger wise Trial Balance
b. Extracting Balance Sheet - Primary Balance Sheet , Detailed Balance Sheet
c. Closing Stock Value Entry through Balance Sheet
d. Extracting Profit And Loss Account - Detailed Form and Vertical Form,
e. Extracting Income And Expenditure Statements for Non-Trading Units

UNIT 6: Introduction to Stock Management (Inventory) [10]

a. Stock Group, Stock Category, Stock Items, Multiple Warehouses,
b. Purchase Order and Sales Order

REFERENCE BOOKS:

1. S.N & S.K Maheshwari, “Fundamentals of Accounting”, Vikas Publications
2. Shukla & Grewal, “Advanced Accountancy”, Sultan Chand & Sons
3. Tulsian, “Advanced Accountancy”, Tata McGraw Hill
4. Ashok Banerjee, “Financial Accounting”, Excel Books
5. A. K. & K. K. Nandani, “Implementing Tally 9, Comprehensive Guide”, BPB Publishers, New Dehli
6. “Tally 9.2” Comdex Publisher
7. S. H. Sharma ,Siddhant, “Practical Approach towards Tally 8.1 & 9”, Prakashan, Aurangabad

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1.3 Web Designing and Web Authoring Tools

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective: To prepare students in web designing using various web tools.

UNIT 1: Internet **[10]**

a. What is Internet, History of Internet, Advantage & Disadvantages of Internet, Network Topologies
b. Routers, Gateways, Firewall, ISP, TCP/IP
c. Transmission Media: Co-axial Cable, Twisted Pair Cable, Fiber Optics
d. Types of web sites, Domain types, Different types of Browsers
e. ISO-OSI seven layer model

UNIT 2: HTML **[10]**

a. Introduction: Structure of HTML
b. HTML Tags: Text formatting tags, Marquee tags, Changing Background with color and images, Anchor-Internal and External Linking, Image tags, List
c. Browser compatibility issues

UNIT 3: Working with Tables, Graphics & Color **[10]**

a. Understanding table elements, Formatting Tables
b. Understanding graphics file formats, Using<img>, working with images and color, applying background properties

UNIT 4: Planning Site Navigation, frames and forms **[10]**

a. Create usable Navigation, Text-Based Navigation, Contextual linking,
b. Using Graphics for navigation & Linking
c. Designing effective Frames, Working with Framesets
d. Understanding Form Syntax, Creating input objects-<form>, <input>, <select>, <option>,
e. <textarea>, <button>, <label>, <optgroup>

UNIT 5: CSS (Cascading Style Sheets) and Working with Frames and Forms **[10]**

a. Style & Types of styles-Internal/External Style Sheets.
b. Using <Div> and <Span>
c. CSS Font Properties, Creating Font and Text Properties Style Sheets
d. Controlling color & image properties with css

UNIT 6: Web Designing Tools and framework **[10]**

a. **Dream Weaver**:
    a. Introduction & Dreamweaver Interface
    b. Adding content to site: Creating web pages, defining sites, Page Properties, using design template, inserting/presenting text, list, horizontal rules.
    c. Formatting with CSS: Formatting page, CSS, creating CSS, using external CSS, attaching
    d. CSS, page layout with CSS.

b. Bootstraps framework
    a. Basics of bootstrap, grid, components

REFERENCE BOOKS:

1. Joel Sklar, "Textbook of Web Designing", Cengage Learning Publication 2009
2. Jennifer Niederst, "Web designing in Nut Shell (Desktop Quick Reference)", O'Reilly publication
3. James Kalbach, "Designing web navigation" by Publication, O'Reilly publication
4. "How to become web master in 14 days", Techmedia publication
5. Sherry Bishop, Jim Shuman, Elizabeth Eisner Reading, Delmar, "The Web collection revealed premium edition : Dream weaver CS4 & Photoshop CS4 Language Learning"
6. Michael Palmer and Robert Bruce Sinclair, Local & Wide Area Network, Thomson Publications
7. Ivan Bayross, "Web Enabled Commercial Application Development using HTML, DHTML, Java Script, PERL, CGI", BPB Publication
8. Jake Spurlock, "Bootstrap: Responsive web development", O'Reilley
9. www.getbootstrap.com

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1.4 ICT Fundamentals & Office Automation

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective: To prepare students in understanding ICT basics and to make aware of Office automation using MS- Office.

UNIT 1: Elements of ICT **[10]**

a. Definition of ICT, Impact of ICT in business
b. Communication – simplex, half-duplex and full duplex
c. Network, Types of computer Networks
d. Network Topology
e. Wireless communication – Bluetooth and wi-fi
f. Communication tools: email, chatting, Social networking, teleconferencing/video conferencing

UNIT 2: Operating System **[10]**

A) Operating Systems : What is booting, Definition of operating system , functions of operating system, types of operating system - batch operating system, time sharing, multi programming, multitasking, Distributed system, Real time System, Introduction to Operating systems – Mac OS, Linux, Windows, Android

B) Concept of Software: Definition**,** Types of software- System Software, Application Software, System Software

Meaning of Virus, Types & Effects of Viruses, Anti –Virus, Roles of antivirus

Programming Languages: High level, Middle Level, Low Level, 4GL

UNIT 3: WORD PROCESSING **[10]**

a. Introduction to Office Automation Suites, Components and features
b. Working with Documents and the Keyboard, Navigating through a Word Document
c. Basic Text Editing, Text Formatting, Paragraph Formatting, Page Formatting, header & footers, Templates
d. Working With Graphics and Pictures, Tables, Mail Merge, Printing, spell check, auto text.
e. Managing bibliography, working with index

UNIT 4: WORKING WITH SPREADSHEET [10]

a. Introduction to Worksheets and Workbooks, Working with Cells, Rows, and Columns,
b. Formatting Data and Cells, Formatting Rows and Columns, Editing Cells, Rows, Columns, and Worksheets, Conditional formatting
c. Formulas and Calculations, inbuilt Functions, Sorting and filtering
d. Adding Images and Graphics, Charts, Printing Worksheets, Protecting sheets

UNIT 5: PRESENTATION SOFTWARE [10]

a. Introduction to Power Point, Basics of Creating Presentations, Applying Themes and Layouts
b. Working with Objects, Entering, Editing, and Formatting Text, Working in Outline View
c. Inserting Pictures, Graphics, Shapes, and Other Things, Inserting Tables into Presentations, Charts and SmartArt, Adding Sound and Video
d. Adding Transitions and Animation, Master Slides, Printing and Running Slide Shows

UNIT 6: SOHO DATABASE SOFTWARE [10]

a. Introduction to database software, creating and editing databases, tables, forms and reports

REFERENCE BOOKS:

1. V. Rajaraman, “Fundamentals of Computers”, PHI publication.
2. Roger Hunt and John Shelley, “Computers and Commonsense”, PHI publication
3. Abrham Silberschatz, “Operating System concepts”, John Wiley & sons INC
4. A. S.Tananbaum, “Computer Network”
5. Vipra Computers, “Microsoft Office 2007”, Vipra Printers Pvt. Ltd.
6. Ed Bott and Woody Leonhard, “Special Edition Using Microsoft Office 2007”
7. Misty Vermaat, “Microsoft Office 2013”, Shelly Cashman

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1.5 Programming in C

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective: To Train students with basic concepts of programming using C.

UNIT 1: Introduction **[10]**

a. History, Special features and application areas, Structured programming approach
b. Definitions- Program, Interpreter, Compiler
c. Algorithm: Basic notation of algorithm
d. Flowcharts: Definition, Symbols of flow charts
e. Examples of algorithms and flowcharts

UNIT 2: Input-Output and Control Flow **[10]**

a. Variable name, data types
b. Operators and expressions - arithmetic operators, relational operators, logical operators, increment, decrement operators, assignment operators, compound assignment operator, conditional expression, precedence and order of evaluation.
c. Standard Input-output, formatted input and output statements
d. Control flow: statement and block, if- else- if, switch, break, continue, go to, loops: while, for, do-while, nesting of loops.

UNIT 3: Functions and Program Structures **[10]**

a. Basics, declaring and calling and defining functions
b. Recursion
c. String functions.

UNIT 4: Pointer and Arrays **[10]**

a. Introduction to pointers, uses of pointers, address variable, pointer variable, pointer to function, pointers and function argument, pointer and arrays, pointer arithmetic
b. Character pointers and function
c. Multidimensional array
d. Command line argument

UNIT 5: Structure, Union, Typedef **[10]**

a. Structure Basics, Pointer to structure, Nested structure
b. Union
c. Typedef, enumerated data type

UNIT 6: File Handling **[10]**

a. Sequential file handling, File creation and access
b. Miscellaneous functions of file.

REFERENCES BOOKS:

1. E. Balagurusamy, “Programming in ANSI C”, Tata McGraw-Hill Education, 2008.
2. Yashavant P. Kanetkar, “Let us C”, BPB Publication.
3. Herbert Sehlidt, “The Complete Reference C”, Tata McGraw-Hill Publication.
4. V. Rajaraman, “Computer Programming in C”, PHI publications
5. Brian W. Kernighan, Dennis Ritchie, “C Programming Language,” 2nd edition, Prentice Hall

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1.6 Lab I - Practical on Tally ERP and Web Designing

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Practical on Tally ERP

1. Creation of company, Alter and Shut Company, Delete the existing company and show the company details.
2. Creation of Groups, Alter the Groups and deletion of Group and Display Groups.
3. Creation of Ledger A/c's, Display and Alter the Ledger A/c's, Deletion of Ledger a/c's.
4. Demonstrate different types of voucher entries and display Profit & Loss A/c and Balance Sheet.
5. Creation of stock groups, stock Item and also stock category with unit of measurements.
6. Creation of Purchase order and sales order.
7. Showing Ledger wise Trial-Balance of a Company
8. Showing detailed Profit & Loss Account & balance Sheet of a Company
9. Showing Income & Expenditure Statements for Non Trading Concerns.
10. Showing Stock Summery Aging Analysis

Practical on Web Designing

1. Develop a web page using basic HTML tags
2. Develop a web page using Lists
3. Develop web pages using internal and external Hyperlinks
4. Develop a web page using tables
5. Develop a web form
6. Design a web page using frames
7. Design a web page demonstrating internal CSS
8. Design a web page demonstrating external CSS
9. Develop a web page using Dream Weaver
10. Create simple website using bootstrap elements

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1.7 Lab II – Practical on Office Automation and C Programming

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Practical of Office Automation

1. Demonstrate style formatting and page formatting in Word Processor
2. Demonstrate creating and using templates in Word Processor
3. Demonstrate working with graphics, pictures, and tables in Word Processor
4. Demonstrate using mail merge with Word Processor
5. Demonstrate entering data, managing data, sorting and formatting data and cells in spreadsheet
6. Demonstrate using formulas and calculations in spreadsheet
7. Demonstrate adding images, graphics, charts and diagrams in spreadsheet
8. Demonstrate creating presentations and applying themes and layouts to slides
9. Demonstrate inserting pictures, graphics, shapes, tables, charts, Smart Art, notes and objects in presentation
10. Demonstrate adding sound, video, transitions, and animation to your PowerPoint presentations.
11. Create Student database. Insert records using form and generate report

Practical on Programming in C

1. Write a program to find the simple interest.
2. Write a program in to check the number is palindrome or not.
3. Write a program to find factorial of given number.
4. Write a program to print FiboNAACi series upto given term.
5. Write a program to generate all prime numbers in the given range.
6. Write a program to print given number in word (Ex: - 937 – Nine hundred Thirty Seven).
7. Write a program to find maximum and minimum of array elements..
8. Write a program to check armstrong number.
9. Write a program for matrix multiplication.
10. Write a program to demonstrate string functions
11. Write a program to Count the number of words in a given sentence.
12. Write a Program create a file & store information in it.
13. Write a Program to copy contents of one file into another file.

M.B.M. (CM) Semester I Subject: Audit Courses

AC-101: Practicing Cleanliness
(Audit Course; Practical; 2 Credits)

Course Objectives (COBs):

- To make students aware of Clean India Mission and inculcate cleanliness practices among them.

- Awareness program on
  - Swachh Bharat Abhiyan (Clean India Mission)
  - Clean Campus Mission
  - Role of youth in Clean India Mission
- Cleaning activities inside and surroundings of Department buildings.
- Tree plantation and further care of planted trees
- Waste (Liquid/Solid/e-waste) Management, Japanese 5-S practices
- Planning and execution of collection of Garbage from different sections of University campus
- Role of youth in power saving, pollution control, control of global warming, preservation of ground water and many more issues of national importance.
- Cleanest School/Department and Cleanest Hostel contests
- Painting and Essay writing competitions

Course Outcomes (COts):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC101.1	Identify need at of cleanliness at home/office and other public places.	**2**
AC101.2	Plan and observe cleanliness programs at home and other places.	**4**
AC101.3	Practice Japanese 5-S practices in regular life.	**3**

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2.1 Communication Skills

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective:

- To study the personality development of individuals in the micro perspective.
- To understand communication cycle.
- To provide employability skills
- To know the process of Interview Techniques& Group discussion.
- To understand the needs and benefits of written communication.

UNIT 1: Basic Elements of Communication **[10]**

a. Definition – Elements of Communication - Process of communication
b. Role of Communication in Business – Characteristics of communication
c. Formal Channels – External – Outward and Inward –
d. Internal – vertical – Horizontal
e. Group Networks - Informal channels – Grapevine.

UNIT 2: Personality development **[10]**

a. Developing Interpersonal Relations
b. Analytical Skills, Multitasking Ability
c. Listening Skills.
d. Body Language.
a. Non Verbal Communication Skills.
b. Dialogue Skills

Need for dialogue and Conversation skills – skills needed for dialogue – Clear and Pleasant speech – Good manners and Etiquette – Self-control – Listening – Asking questions – Assertiveness without Aggression- Expressing disagreement without being offensive – summarizing and closure – feedback skills

UNIT 3: The "Why" and "To Whom" Parts of communication **[10]**

a. Defining Communication
b. Types of Communication- verbal/Non verbal
Technological/ Non Technological
Mediated/Non mediated
Participatory/Non Participatory

Intrapersonal or face to face Communication
Focused and Unfocused Interactions

c. Interactive Communication
d. Barriers of Communication

UNIT 4: Written Communication [10]

a. Qualities of good letter
b. Resume writing
c. Layouts of business letters
d. Writing different types of letters:-
    i Enquiries & Replies
    ii Orders & Replies
    iii Complaints & Claims
    iv Application Letters
    v Reports writing
e. Web Communication

UNIT 5: Interview Techniques [10]

a. General Tips on taking interview - Do's & don'ts.
b. Pre & post Preparation of the interview.
c. Interview : Types, Preparation, Conducting and Appearing for interview
d. Common Questions and flow-Warm-up questions-Questions that set the stage-detail part of interview-the trick negative questions- intention testing questions-compensation and financial details- difference between the American and Indian Interviews
e. The Interviewer Perspective

UNIT 6: Group Discussion [10]

a. Meaning, Objective, Methodology of Group Discussion, Guidelines for Group Discussion, Role Function in Group Discussion, Nonfunctional Behavior, Improving Group Performance.

REFERENCE BOOKS:

1. Penrose, Rasberry, Myers, "Business communication for managers", Cengage Learning
2. Raman & Singh, "Business communication", oxford Publication
3. Ruben Roy, Communication Today, Himalaya Publication
4. C. S. Raydu, "Business communication", Himalaya Publication
5. Taylor, Communication for Business, Pearson Education
6. Dr. Rao& Dr. Das, "Communication Skills", Himalaya Publication
7. Scot Ober, Biztantra, Dreamtech, "Contemporary Business Communication "
8. Bovee, Thill, Schatzman, "Business communication Today", Pearson
9. Lesikar & Flately, "Basics of Business communication", Tata McGraw Hills
10. R. K. Madhukar, "Business communication", Vikas Publication

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2.2 Management Information System

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective: To develop the knowledge about process of MIS and its application to the business for decision making process.

UNIT 1: Fundamentals of Management Information Systems **[10]**

a. Definition - Data and information, types of information
b. Information System: Definition, classification of IS
c. Management Information System
d. Definition, importance, evolution
e. Components & Activities of MIS
f. Types – Operation support system & Management support systems
g. Control systems – Feedback & Feed forward systems
h. Computers and MIS

UNIT 2: Planning and development of MIS **[10]**

a. MIS planning process – Steps in planning
b. Management of Quality in the MIS
c. MIS design & Development Process
d. Factors contributing in the Success & Failure of MIS

UNIT 3: Support System **[10]**

a. Decision Support System (DSS): Concept, Philosophy, Characteristic, Classes, Users of DSS
b. Executive Support System (ESS) : Introduction, Components & Architecture
c. Office Information System: Document management & Communication system

UNIT 4: Expert System and Artificial Intelligence **[10]**

a. Artificial intelligence – definition, evolution, components and application
b. Expert System – Definition, architecture, stages in expert system development process
c. Knowledge based expert system

UNIT 5: ERP **[10]**

a. Definition, evolution, Advantages and limitations
b. Architecture of ERP
c. Phases of ERP implementation
d. Success and failure factors of ERP

UNIT 6: Application of MIS in functional areas **[10]**

a. Production

b. Marketing information System
c. Accounting
d. Personnel and services

REFERENCE BOOKS:

1. Waman S. Jawadekar, “Management Information System”, Tata McGraw Hill
2. Waman S. Jawadekar, “Management Information System Text and cases”, Tata McGraw Hill
3. Arora, Management Information System, Excel Books
4. Davis & Gordon, “Management Information System”, Tata McGraw Hill
5. James O’Brian & George M Marakas, “Management Information System”, TataMcGraw
6. D P Goyal, “Management Information Systems Managerial Perspectives”, Macmillan
7. S. Sadagopan, “Management Information Systems”, PHI
8. C S V Murthy, “Management Information System”, Himalaya Publishing House
9. Alex Leon, “Enterprise Resource Planning”, McGraw Hill Education

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2.3 System Analysis and Design

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective: The course has been designed to provide a foundation of systems principles and an understanding of System development.

UNIT 1: Introduction **[10]**

a. **System definition and concepts,** Characteristics and types of system, Elements of Systems,
b. Feedback and feed forward control system
c. **Systems models types of models:** Real-time and distributed systems, Basic principles of successful systems

UNIT 2: System Development cycle **[10]**

a. Role and need of systems analyst
b. Introduction of Systems Development Life Cycle (SDLC)
c. Various phases of development :Analysis, Design, Development, Implementation, Maintenance
d. Systems documentation considerations: Principles of systems documentation , Types of documentation and their importance, Enforcing documentation discipline in an organization
e. SDLC Models : Waterfall Model, Spiral and RAD, Prototyping

UNIT 3: System Planning **[10]**

a. Data and fact gathering techniques: Interviews, Group communication, Presentations, Site visits.
b. Feasibility study and its importance
c. Types of feasibility reports- Technical, Economical and Behavioral
d. System Selection plan and proposal Prototyping

UNIT 4: Systems Design and modeling **[10]**

a. Logical and physical design
b. Systems flowcharts & Data flow diagrams
c. Common diagramming conventions and guidelines using DFD and ERD diagrams
d. Tools for Structured Analysis : Data Dictionary, Decision Tree and Decision Tables, Structured English

UNIT 5: Input / Output Design **[10]**

a. Classification of forms: Input/output forms design
b. User-interface design

c. Graphical interfaces

UNIT 6: Designing business application system using DFD, ERD , Input and Output layouts [10]

a. Library System
b. Inventory System
c. Hospital System

REFERENCE BOOKS:

1. Whitten, Bentaly and Barlow, “System Analysis and Design Methods”, Galgotia Publication.
2. Elias M. Awad, “System Analysis and Design”, Galgotia Publication
3. Roger Pressman, “Software Engineering”, McGraw Hill
4. K.K. Agrawal and Yogesh Agrawal, “Software Engineering”, 2nd Edition New Age International Publishers
5. James A. Senn, “Analysis & design of Information system”, McGraw Hill
6. Rahul Mishra, Anshu K. Chauhan, System Analysis & Design, Pragati Prakashan
7. Waman S. Jawadekar, “Software Engineering”, Tata McGraw Hill Education (India) Pvt. Ltd.

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2.4 RDBMS

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective- To prepare students in using and managing databases.

UNIT 1: Database Systems& Data Models **[10]**

a. Definition of DBMS& RDBMS
b. File processing system vs. DBMS
c. Limitation of file processing system
d. Advantages and Disadvantages of RDBMS
e. Relational Model, Network Model, Hierarchical Model, Entity Relationship Model

UNIT 2: Relational Database Design **[10]**

a. Entity, Attribute, relationship Set
b. ERD
c. Keys: Primary, Super, Candidate, Foreign Key
d. Codd's Rules
e. Normalization, Normal Form:1 NF, 2 NF, 3 NF

UNIT 3: Introduction to SQL (Structured Query Language) **[10]**

a. Types of SQL: DDL, DML, DCL Statements.
b. Constraints: Not Null, Unique, Primary Key, Check, Referential Integrity.
c. Clauses: where, group by, having, order by.
d. Functions: Numeric Functions, Character Functions, Aggregate Functions, Date Functions.

UNIT 4: Nested Queries, Joins &Database Objects: **[10]**

a. Nested Queries
b. Joins: inner join, outer join
c. Database Objects: Sequence, View, Synonym, Index

UNIT 5: Managing Users: **[10]**

a. Creating user,
b. Granting privileges – Object Level and Database Level
c. Revoking Privileges – Object Level and Database Level.
d. Access Matrix

UNIT 6: Concurrency Control & Transaction Management [10]

a. Concept of Concurrency Management
b. Rollback and Commit statements
c. Types of Locks
d. Select …for update & Lock table command.
e. Transaction – Definition ACID properties, state of transaction
f. Protocols – timestamp protocol, 2 phase locking protocol
g. Deadlock – concept, prevention and recovery

REFERENCE BOOKS:

1. Abraham Silberschatz, Henry F. Korth & S. Sudarshan, "Database System Concepts", McGraw-Hill
2. Ivan Bayross, "Oracle", BPB Publication
3. "Oracle DBA Certification Guide", Oracle Press OCP Guide
4. Pranab kumar Das Gupta, P. Radhakrishna, "Database Management System Oracle SQL and PL/SQL", PHI publications

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2.5 Object Oriented Programming Using C++

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective- To train students in programming using object oriented concepts with C++.

UNIT 1: Introduction **[10]**

a. History of C++
b. Structured Vs Object oriented development
c. OOP's Features-Object, Classes, Data Encapsulation & Abstraction, Delegation, Inheritance, Polymorphism, Message Communication.

UNIT 2: Classes and Objects **[10]**

a. Access Specifier
b. Class Specification- Defining Members
c. Creating Objects
d. Constructors, types of Constructors, destructor
e. Friend Class and Friend Function

UNIT 3: Polymorphism **[10]**

a. Function overloading,
b. Operator Overloading- unary, binary operators, using friend functions, without using friend functions
c. Virtual & Pure Virtual functions

UNIT 4: Inheritance **[10]**

a. Types of Inheritance
b. Member Accessibility
c. Visibility Modes
d. Virtual Base Class
e. Abstract class.

UNIT 5: Templates & Exception Handling **[10]**

a. Template concepts, Advantages of using templates
b. Class template
c. Function template
d. Exception handling

UNIT 6: Stream Computation **[10]**

a. Stream Computation with console
b. Streams computations with Files.

REFERENCE BOOKS:

1. K R Venugopal, Rajkumar, T Ravishankar, Mastering C++, TMH Publication
2. Yashwant Kanetkar, Exploring C++ , BPB publication
3. W. Balguruswamy, Object Oriented Programming using C++, TMH
4. The C++ Programming Language by
5. Bjarne Stroustrup, C++ Programming Language
6. Steven Holzner, Black Book, Dreamteach publication
7. Herbert Schildt, The Complete reference C++ 4th Edition by McGraw Hill Education (Inda) Pvt. Ltd. New Delhi,

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2.6 Lab III – Practical on RDBMS

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Practical on RDBMS

1. Create a table, Insert 10 Records into it. Also perform alter table
2. Demonstrate simple SQL queries
3. Demonstrate use of operators IN, OR, AND, BETWEEN, NOT, LIKE, EXISTS
4. Create table with various constraints, insert records and also perform alter, update, delete etc.
5. Demonstrate Aggregate functions, Date functions, String functions,
6. Demonstrate the use of Group By and Having Clause
7. Demonstrate Joins and nested queries.
8. Demonstrate View, Sequence, and Synonym.
9. Create User. Grant and Revoke privileges to and from user.
10. Demonstrate concurrency control.

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2.7 Lab IV – Practical on C++

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Practical on Object Oriented Programming using C++

1. Write C++ program to demonstrate the use of class and object
2. Write a C++ program to demonstrate function overloading
3. Write a C++ program to demonstrate operator overloading using friend function.
4. Write a C++ program to demonstrating the use of constructors and destructor
5. Write a C++ program to demonstrate the Single & multiple inheritance.
6. Write a C++ program to demonstrate multilevel and hierarchical inheritance
7. Write a C++ program to demonstrate the use of virtual function
8. Write a C++ program to demonstrate the concept of function template & class template.
9. Write a C++ program to demonstrate Exception Handling
10. Write a C++ program to demonstrate File handling.

M.B.M. (CM) Semester II (Subject): Audit Courses

(Choose One)

	AC-201(A): Soft Skills **(Personality and Cultural Development Related Audit course; Practical; 2 Credits)**	
	Course Objectives (CObs): • To make students well conversant in soft skills	
Unit 1	**Introduction to soft skills** Formal definition, Elements of soft skills, Soft vs. Hard skills, Emotional quotient, Goal setting, life skills, Need for soft skills, Communication skills, Etiquettes& Mannerism.	**2 h**
Unit 2	**Self-Assessment** Goal setting, SWOT analysis, attitude, moral values, self-confidence, etiquettes, non-verbal skills, achievements, positive attitude, positive thinking and self-esteem. Activity: The teacher should prepare a questionnaire which evaluate students in all the above areas and make them aware about these aspects.	**4 h**
Unit 3	**Communication Skills** Types of communication: Verbal, Non-verbal, body language, gestures, postures, gait, dressing sense, facial expressions, peculiarity of speaker (habits). Rhetoric speech: Prepared speech (topics are given in advance, students get 10 minutes to prepare the speech and 5 minutes to deliver, Extempore speech (students deliver speeches spontaneously for 5 minutes each on a given topic), Storytelling (Each student narrates a fictional or real-life story for 5 minutes each), Oral review (Each student orally presents a review on a story or a book read by them) Drafting skills: Letter, Report & Resume writing, business letters, reading & listening skills Activity: The teacher should teach the students how to write the letter, report and build resume. The teacher should give proper format and layouts. Each student will write one formal letter, one report and a resume.	**8 h**
Unit 4	**Formal Group Discussion, Personal Interview & Presentation skills** Topic comprehension, Content organization, Group speaking etiquettes, driving the discussion & skills. Preparation for personal interview: dress code, greeting the panel, crisp self-introduction, neatness, etiquettes, language tone, handling embarrassing & tricky questions, graceful closing. Activity: Each batch is divided into two groups of 12 to 14 students each. Two rounds of a GD for each group should be conducted and teacher should give them feedback. Mock interview are to be conducted.	**4 h**
Unit 5	**Aptitude and analytical skills** Quantitative aptitude, Numerical reasoning, verbal reasoning, diagrammatic test, situational tests, logical thinking. Analytical skills: Definition, Types, problem solving	**8 h**
Unit 6	**Life skills** Time management, critical thinking, sound and practical decision making by dealing with conflicts, stress management, leadership qualities Activity: The teacher can conduct a case study activity to train students for decision	**4 h**

	making skills. The teacher should conduct a session on stress management and guide students on how to manage stress. The teacher may conduct a stress relieving activity in the class. He/she may counsel students individually to know their problems and guide them on dealing with them effectively.	

Suggested readings:

1. Basics of Communication In English: Francis Sounderaj, MacMillan India Ltd.
2. English for Business Communication: Simon Sweeney, Cambridge University Press
3. An Introduction to Professional English and Soft Skills: Das, Cambridge University Press
4. Quantitative Aptitude: R.S. Agrawal

Course Outcomes (COts):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC201A.1	Communicate well in business and profession	**4**
AC201A.2	Be a good presenter	**3**

AC-201(B): Practicing Sports Activities

(Personality and Cultural Development Related Audit course; Practical; 2 Credits)

Course Objectives (CObs):

- To motivate students towards sports and provide them required training.

SR NO.	NAME OF THE SPORT/GAME (Select ONE of the Following)	SYLLABUS OF THE COURSE	TIMING (02 Hours in a Week)	SEMESTER
1	Volleyball	• General Fitness • Basic Fitness • Specific Fitness • History of the Game • Basic Skill of the Game • Major Skill of the Game • Technique & Tactics of the Game • Game Practice	Morning : 07 to 09 AM OR Evening : 05 to 07 PM	Total 30 Hours in Each Semester
2	Athletics			
3	Badminton			
4	Cricket			
5	Basketball			
6	Handball			
7	Kabaddi			
8	Kho-Kho			
9	Table-Tennis			
10	Swimming			

Course Outcomes (COts):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC201B.1	Understand sports rules and deal with Basic Fitness	**4**
AC201B.2	Play sport and be active sportsperson	**3**

AC-201(C): Practicing Yoga **(Personality and Cultural Development Related Audit course; Practical; 2 Credits)**	
	Course Objectives: • To motivate students towards yoga and provide them required training.
	• Yog: Meaning, Definition & Introduction, Objectives • Primary Introduction of Ashtanga Yoga • Preparation of Yogabhyas • Omkar Sadhana, Prayer, Guru Vandana • Sukshma Vyayamas • Suryanamaskar (12 Postures) • Asanas : ▪ Sitting (Baithaksthiti) - Vajrasana, Padmasan, Vakrasan, Ardha-Pashchimotanasanan ▪ Supine (Shayansthiti) - Uttan Padaasan(Ekpad/Dwipad), Pavanmuktasana, Viparitakarani Aasan, Khandarasan, Shavasana ▪ Prone (Viparitshayansthiti) - Vakrahasta, Bhujangasana, Saralhasta Bhujangasana, Shalabhasana(Ekpad/Dwipad), Makarasana ▪ Standing (Dhandsthiti) - Tadasana , TiryakTadasana, Virasana, Ardh Chakrasana • Primary Study of Swasana: Dirghaswasana, Santhaswasana, JaladSwasana - 6 Types • Pranayama : Anuloma-viloma, Bhramari

Course Outcomes (COts):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC201C.1	**Do** Omkar Sadhana, Prayer, Guru Vandana	**3**
AC201C.2	Perform various asanas	**4**

AC-201(D): Introduction to Indian Music **(Personality and Cultural Development Related Audit course; Practical; 2 Credits)**	
	Course Objectives: • To motivate students towards Indian music and provide them minimum required training. .
	• Definition and brief about generation of Swar, Saptak, Thaat, Raag, Aavartan, Meend, Khatka, Murkee, Taal, Aalaap etc. • Taal and its uses - Treetaal, Daadraa, Zaptaal, Kervaa. • Information of Badaakhyaal, Chhotaakhyaal (one), Sargam, Lakshangeet (information) • Detailed information of Tambora • Detailed information of Harmonium and Tablaa. • Five filmy songs based on Indian Classical Music (Theory and Presentation) • Sound Management - Basic information of Sound Recording (including Practicals) • Composition of Music as per the Story • Preparing news write-ups of the Seminars, Library Musical Programmes held at the nearest Akashwani, by personal visits.

Course Outcomes (COts):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC201D.1	Identify different types of Indian music.	**3**
AC201D.2	Develop more interest to learn and practice Indian music.	**4**

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3.1 CRM and Digital Marketing

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective: To aware the students with the concepts of customer relationship management and digital marketing

Unit 1: Customer Relationship Management- Overview **[10]**

a. Need of CRM, Importance of CRM, Characteristics of CRM,
b. Pareto's Law, Types of CRM,
c. CRM implementation issues- Challenges & Barriers
d. CRM and Marketing department
e. Variations of CRM

Unit 2: Customer Loyalty and Retention **[10]**

a. Customer loyalty & customer retention definition & meaning
b. Factors influencing satisfaction and loyalty
c. Relationship between customer loyalty and company profitability
d. Loyalty programs
e. Loyalty segments

Unit 3: Service and complaint management **[10]**

a. Principles of complaint handling
b. Introduction to service, challenges to service as business
c. Service level management in CRM context
d. Concept of e-CRM, & sales force automation
e. CRM in retail sector.

Unit 4: Digital Marketing **[10]**

a. Concept of E- Marketing scope and advantages
b. Online marketing mix – Segmentation, Targeting and positioning
c. Behavioural targeting and contextual targeting
d. Web 2.0 and marketing
e. Dynamics of online consumer visit

Unit 5: Digital marketing drivers **[10]**

a. Social media: Mckinsey model, Media analytics, Tools

b. Online Branding: Cyber branding, Brand experience, Brands and emotions
c. Traffic building: Search marketing methods, Keyword advertising, websites and marketing
d. E-commerce: Online market prices, online distribution and procurement
e. Revenue benefits: Role of internet in impacting consumer price sensitivity, Price effects in online domain.
f. Web business models: Customer value analysis and internet, Value of customer contact.

Unit 5: Integrating Online Communication into IMC Process - Online Advertising [10]

a. Email Marketing and Viral Marketing
b. Affiliate Marketing - Participatory
c. Communication Networks - Social Media Communities, Face book-Twitter etc
d. Consumer Engagement
e. Sentiment mining
f. Uses of games as marketing tools

.

REFERENCE BOOKS:

1. Mukesh Chaturvedi and Abhinav Chaturvedi, "Customer Relationship Management, An Indian Perspective", Excel Books, 2008
2. Ekta Rastogi, "Customer Relationship Management, Text and Cases, Excel Books", 2011
3. Seema Girdhar, "Understanding CRM", Excel Books, 2013
4. C Bhattacharjee, "Services Marketing", Excel Books, 2010
5. Alok Kumar Rai, "Customer Relationship Management", 2012
6. Strauss Judy, "E-Marketing", Prentice Hall, India
7. Kotler, P., Armstrong, G., Brown, L., Chandler, S. A. (1998), "Marketing", (4th edn), Prentice Hall, Sydney.
8. Vandana Ahuja, "Digital Marketing", Oxford university press
9. Damian Ryan, Calvin Jone. Kogan Page, "Understanding Digital Marketing: Marketing Strategies for Engaging the Digital Generation"
10. William M. Pride, O. C. Ferrell, "Marketing 2012" Cengage Learning.

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3.2 Cyber Security and IT Act

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective:

- To introduce the student with information security, security threats and control.
- To study and understand the basic concepts of cryptography, network security and cyber laws.

UNIT 1: Introduction to Information Security **[10]**

a. History of Information Systems and its Importance, basics of IS
b. Nature of Information Systems
c. Basic Principles of Information Security

UNIT 2: Security Threats and Controls **[10]**

a. Information System Threats and attacks
b. Security Threats to E Commerce
c. Business Transactions on Web
d. E-Governance
e. Concepts in Electronics payment systems, Internet Banking, E-Cash, Credit/Debit Cards.
f. Physical Security- Needs, Disaster and Controls
g. Access Control- Biometrics, Benefits of Biometrics Systems and Criteria for selection of Biometrics, Finger Prints.

UNIT 3: Cryptography **[10]**

a. Model of Cryptographic Systems
b. Issues in Documents Security
c. Digital Signature, Requirement of Digital Signature System

UNIT 4: Network Security **[10]**

a. Network Security- Basic Concepts, Dimensions, Perimeter for Network Protection
b. Network Attacks
c. Need of Intrusion Monitoring and Detection, Intrusion Detection System
d. Virtual Private Networks- Need, Use of Tunneling with VPN, Authentication Mechanisms, Types of VPNs and their Usage, Security Concerns in VPN

UNIT 5: Cyber Crime **[10]**

a. Cyber Crime Introduction
b. Email Tracing and Tracking, Email Spoofing
c. Mobile Number Hacking
d. Data Recovery
e. Cyber Fraud Detection, Hack Website
f. Web Server/ISP
g. Web & DOS Attacks
h. Security Policy

UNIT 6: Cyber Law & IT Act 2000 **[10]**

a. Fundamentals of Cyber Law,
b. Introduction to Indian Cyber Law: Information Technology Act 2000, Main features of the IT Act2000, Information Technology Amendment Act 2008 and its major strengths.

REFERENCE BOOKS:

1. Godbole," Information Systems Security", Willey
2. Merkov, Breithaupt," Information Security", Pearson Education
3. Yadav, "Foundations of Information Technology", New Age, Delhi
4. Schou, Shoemaker, "Information Assurance for the Enterprise", Tata McGraw Hill
5. Sood,"Cyber Laws Simplified", McGraw Hill
6. Furnell, "Computer Insecurity", Springer 7. IT Act 2000

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3.3 Graphics and Animation

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective: To prepare students to acquire the required skills to create animations and graphics, this can be helpful in building commercial websites.

UNIT 1: Introduction to Animation **[10]**

a. What is Animation, History of Animation
b. Principle of Animation
c. Types of Animation & Animation Tech.
d. Classical Animation, Stop Animation, Clay animation, Frame Animation
e. Cell Animation.
f. Components used for designing animation such as light box, Live Shooting, Love
g. Photography, Croma Shoot
h. Techniques of story boarding for digital film making
i. Understanding vector animation
j. Use of Animation in Industries
k. Concept of 2D, 3D animation

Getting Started with Flash CS3

a. Welcome Screen
b. Creating new movies
c. Touring the interface
d. Panels
e. Toolbox
f. Saving flash files.

UNIT 2: Working with Graphics **[10]**

a. Grouping of Elements –
b. Combine Objects – Delete Envelope, Union, Intersect, Punch, Crop.
c. Working with Text
d. Creating a static text field, Creating a Dynamic text field, Creating a Input text field,
e. Editing Text Field-Scrolling the Text, Breaking Apart The Text
f. Working with Library - Importing Library , Library properties, Common Library, Creating own Library
g. Working with Colors - Color mixer, creating gradients, opacity of gradients, creating custom gradients
h. Working with graphics
i. Importing & working with Bitmaps, Jpeg, gif, etc, Break apart

Creating Flash Elements:

a. Working With Object

b. Drawings, creating, moving, drag, cutting, copying, and selecting objects.
c. Arrange and align objects
d. Transforming Objects - Transforming an object freely, Distorting an object, Modifying an object with envelope modifier, Scaling an object, Rotating & skew an object, Flipping an object, restoring a transformed object.
e. Working With Symbol & Instances - About the symbol, creating and deleting symbols, duplicate and modify an instance of a symbol
f. Types of Symbol- Movie clip, Button, Graphic
g. Creating Dynamic Buttons, editing buttons, converting an existing into a movie clip, placing movie clip symbol inside the button symbol.
h. Marking Positions - What is Onion Skinning & its Types & uses.

UNIT 3: Working with Flash CS3 **[10]**

a) Working with Layers

a. Introduction to layers, Hide & Show Layers ,Lock a Layer, Add and name layer, change the orders of layers, organize layers in folder.
b. Type of Layers-Guide layer, Mask layer, layer properties
c. Masking Animation, Masking Frame by Frame

b) Tweened Animation

a. Motion Tween Animation
b. Creating motion tween-setting the property of tweening object, additional tween on existing layer
c. Editing the motion path of an tween – changing the position, location, deleting the motion path, applying motion preset,
d. Shape tween Animation: Creating shape tween-setting the property of tweening object, additional tween on existing layer
e. Applying Path, orient to path
f. Frame by Frame Animation:Creating frame by frame animation

c) Flash CS3: Effects

a. Timelines Effect
b. Using filters - Alpha, Blur, Glow, Bevel, Drop Shadow etc.
c. Adding effects to Buttons

UNIT 4: Flash CS3: Action Script **[10]**

a. Introduction to Flash Action Script
b. Add a script to button by using script assist mode
c. Add frame scripts to timeline by using script assist mode
d. Add a frame script to the title movie clip
e. Action Script: Adding Interactivity
f. Setting up your workspace
g. Name button instances, Add a scene, Move between buttons with the stop() action .
h. Link the buttons to the scene
i. User behaviour to play an MP3 file

UNIT 5: Create a form with conditional logic **[10]**

a. Add an input text field to collect from data
b. Add submit button to the form
c. Add an error() message
d. Add a confirmation message
e. Add a stop() action
f. Add conditional logic for the submit button
g. Write a function for Try Again button Working with Sound & Video
h. Working with sound: Importing Sound file, adding sound to the timeline, adding sound to
i. button, editing sounds,
j. Working with Video: Importing & Editing a video file

UNIT 6: Flash CS3: Flash Web Templates **[10]**

a. Creating Interactive Webpage
b. Optimizing Movies & Exporting movies for the web exporting files

Publish flash documents

a. Using different publishing formats
b. Using publishing profiles
c. Adding flash player detection
d. Publishing for deployment

REFERENCE BOOKS:

1. "Flash CS3 in Simple Steps" – Kogent Learning Solutions – Dreamtech Press
2. Dinesh Maidasani. "Flash 8-Straight to Point", Firewall Media Publisher
3. Jay Armstrong, Jen deHaan, "Macromedia Flash 8: A Tutorial Guide", BPB Publisher
4. "Flash MX BIBLE", By BPB Publisher

WEBSITES

1. http://www.bestdesignservices.com/flash-banners.html
2. http://www.flash-design-marketing.com/tutorials/free-fla-files/flash-graphics.shtml
3. http://www.flashfridge.com
4. http://www.flashvault.net
5. http://logolitic.com/40-animation-flash-tutorials/
6. http://www.flasheff.com
7. http://www.flashwonderland.com/adobe-flash-interesting-flash-animation-tutorials.html

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3.4 Web Scripting with PHP and MySQL

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective: To impart the knowledge of Website development using PHP among student.

UNIT 1: Scripting Language Basics **[10]**

a. Meaning of Scripting Language
b. Types of Scripting – client side and server side scripting
c. Scripting Language vs. programming Language
d. Differences between client-side and server-side scripting
e. Advantages and Disadvantages of Scripting Languages

UNIT 2: Introduction to Web Development **[10]**

a. Web architecture
b. Web Server (IIS Server, Apache server)
c. Web Browser
d. Open Source, Proprietary Technologies

UNIT 3: Programming with PHP **[10]**

a. PHP Structure and Syntax
b. Embedding PHP in HTML
c. Constants and Variables
d. Passing Variable between Pages
e. Using if/else, Switch
f. Loops
g. String
h. Operators
i. Includes
j. Functions
k. Arrays
l. Using PHP $_GET, PHP $_POST

UNIT 4: Working with Forms **[10]**

a. Processing Forms
b. Form Files & Directories
c. PHP SESSION
d. PHP Cookies

UNIT 5: Introduction to MYSQL **[10]**

a. Introduction to MySQL
b. Data type in MySQL
c. Interacting with Databases using PhpMyAdmin

d. Modifying Database Records Using PHP
e. MySQL Connect, Create, Insert, select, Where, Orderby, Update, Delete using PHP
f. Import Export MySQL Database.

UNIT 6: OOPs Concept and Advanced PHP [10]

a. Introduction, Advantages
b. Class & object, data member, data fields.
c. Inheritance, constructor & destructor, abstract classes, final classes.
d. Exception handling
e. Emailing in PHP
f. File uploading
g. Loading PHP application on web server By FTP.

REFERENCE BOOKS:

1. Dave Mercer, Allan Kent, Steven Nowicki, David Mercer, Dan Squier, Wankyu Choi, "Beginning PHP5", Wiley Publishing(Wrox) ISBN: 0-7645-5783-1
2. Michael K. Glass, Yann Le Scouarnec, Elizabeth Naramore, Gary Mailer, Jeremy Stolz, Jason Gerner, "Beginning PHP, Apache, MySQL Web Development", Wiley Publishing(WROX),March 2004, ISBN: 978-0-7645-5744-6
3. Luke Welling, Laura Thompson, Sams, "PHP, MySql Web Development", second edition
4. Ivan Bayross, Sharanam Shah, THE X Team , "PHP for Beginners", SPD
5. www.w3schools.com
6. www.basicphpprogramming.com

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3.5 C#.NET Programming

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective: To impart the knowledge of object oriented programming using C# among student.

UNIT 1: The .Net framework **[10]**

a. Introduction to .NET framework
b. The Origin of .Net Technology
c. Common Language Runtime (CLR)
d. Microsoft Intermediate Language (MSIL)
e. Just-In –Time Compilation (JIT)
f. Introduction to C #
g. Advantages & Disadvantages of C#

UNIT 2: Programming using C# **[10]**

a. Programming Structure of C#
b. Basic Constructs – Variables, Data types, Operators, arrays, functions
c. Control Statements (if statement, if...else statement, nesting of if...else statement, the else if ladder, switch statement)
d. Looping Construct (while statement, do statement, for statement)

UNIT 3: Object Oriented Programming in C# **[10]**

a. Class and Object
b. Constructors and Destructors
c. Inheritance
d. Interfaces
e. Access modifiers: Public, Private, Protected
a. Polymorphism
b. Overloading and Overriding
a. Sealed Classes
b. Types of errors
c. Try and catch block ,Multiple Catch Blocks

UNIT 4: Windows Applications in C#.NET **[10]**

a. Introduction to GUI Programming
b. GUI Components/ Controls (Windows Forms, Text Boxes, Buttons, Labels, Check Boxes, Radio Buttons, List Boxes, Combo Boxes, Picture Boxes, Timer, Scrollbars, Menus, Built-in Dialogs, Image List, Tree Views, List Views)

UNIT 5: ADO.NET **[10]**

a. Introduction to ADO.NET
b. Components of ADO.NET

c. ADO.NET Data Providers
d. Working with Disconnected Data

UNIT 6: Crystal Report **[10]**

a. Introduction to crystal report
b. Crystal report viewer
c. Simple crystal report
d. Parameterized crystal report

REFERENCE BOOKS:

1. Solis, "Illustrated C# 2008", Publication APRESS, ISBN 978-81-8128-958-2
2. Christian Nagel, Bill Evjen, Jay Glynn, Karli Watson, Morgan Skinner, WROX , "Professional C# 4.0 and .NET 4"
3. Dan Clark , "Beginning C# Object-Oriented Programming" Apress
4. Peter D. Blackburn, "ADO.NET Examples and Best Practices for C# Programmers", Apress
5. Carsten Thomsen, "Database Programming with C#", Apress

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3.6 Lab V – Practical on Graphics & Animation and PHP

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Objective: To practically train students in Graphics using Flash and programming in PHP

Practical on Graphics and Animation

1. Creating scene with an cartoon drawing
2. Demonstrating use of frame by frame Animation.
3. Demonstrating use of symbols and Filters.(Use Motion Tween Animation)
4. Drawing a house with a pencil.(Use Shape Tween Animation)
5. Demonstrating use of Guide Layer & Mask Layer.
6. Creating an e-Card of Birthday Wishes.
7. Create a banner for Website.
8. Demonstrating Motion of Animal (Any Animal Walking, Running etc.)
9. Creating Animation facial expression with the help of smiley.
10. Create multiple scenes and animate it.
11. Create a web advertisement.
12. Create a Flash presentation on any current issues. (Global warming, air pollution, no smoking, save trees etc.)
13. Create an attractive web advertisement and publish it on webpage.

Practical on PHP and MySQL

1. Write a PHP script to demonstrate use of $_GET and $_POST.
2. Write a PHP Script to display Resume on web browser.
3. Write a PHP script to display table of a number.
4. Write a PHP script to calculate factorial of a number.
5. Write a PHP script to create a Simple Login Window with validation.
6. Write a PHP script to Demonstrate inbuilt functions.
7. Write a PHP script to demonstrate use of user defined Function.
8. Creation of MySql database demonstration of various SQL queries(create table,insert, update, delete)
9. Accessing MySql data from PHP script: Displaying tables and fields along with their types and constraints, table data in tabular format.
10. Write a PHP script to Demonstrate OOPS Concept In PHP.

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MMS (Computer Management) Semester-III

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3.7 Lab VI – Practical on C#.NET Programming

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Objective: To practically train students in programming in C#.NET

Practical on C#.NET Programming

1. Write a program to print "Teach One, Each One, Tree One" given number of times
2. Write a program to show use of different operators
3. Write a program to show use of Looping Constructs
4. Write a program to show use of Constructor
5. Write a program to demonstrate Inheritance
6. Write a program to show use of Exception Handling
7. Create a simple C# application using Label, TextBox, Button control
8. Create a C# application using ListBox, ComboBox control
9. Demonstrate the use of Timer control in C#
10. Create a C# application using PictureBox, ScrollBar control
11. Demonstrate Simple Database Connectivity using wizard.

M.B.M.(CM) Sem. 3 , Audit Courses

(Choose One)

AC-301(A): Computer Skills **(Technology + Value added Audit course; Practical; 2 Credits)** **(Optional: Campus + Program level)**		
Course Objectives (CObs): • To inculcate different daily useful computer skills among students.		
Unit 1	**Elements of Information Technology** 1.1 Information Types: Text, Audio, Video, and Image, storage formats 1.2 Components: Operating System, Hardware and Software, firmware 1.3 Devices: Computer, Mobile Phones, Tablet, Touch Screen, Scanner, Printer, Projector,smart boards 1.4 Processor & Memory: Processor functions, speed, Memory types: RAM /ROM /HDD /DVD-ROM/Flash drives, memory measurement metrics	**2 h**
Unit 2	**Office Automation-Text Processing** 2.1 Views: Normal View, Web Layout View, Print Layout View, Outline View, ReadingLayout View 2.2 Working with Files: Create New Documents, Open Existing Documents, SaveDocuments to different formats, Rename Documents, Close Documents 2.3 Working with Text: Type and Insert Text, Highlight Text, Formatting Text, Delete Text,Spelling and Grammar, paragraphs, indentation, margins 2.4 Lists: Bulleted and Numbered Lists, 2.5 Tables: Insert Tables, Draw Tables, Nested Tables, Insert Rows and Columns, Moveand Resize Tables, Moving the order of the column and/or rows inside a table, TableProperties 2.6 Page Margins, Gutter Margins, Indentations, Columns, Graphics, Print Documents, 2.7 Paragraph Formatting, Paragraph Attributes, Non-printing characters 2.8 Types of document files: RTF, PDF, DOCX etc.	**5 h**
Unit 3	**Office Automation-Worksheet Data Processing** 3.1 Spreadsheet Basics: Adding and Renaming Worksheets, Modifying Worksheets, 3.2 Moving Through Cells, Adding Rows, Columns, and Cells, Resizing Rows and Columns, Selecting Cells, Moving and Copying Cells 3.3 Formulas and Functions: Formulas, Linking Worksheets, Basic Functions, AutoSum, Sorting and Filtering: Basic Sorts, Complex Sorts, Auto-fill, Deleting Rows, Columns, and Cells 3.4 Charting: Chart Types, drawing charts, Ranges, formatting charts	**5 h**
Unit 4	**Office Automation- Presentation Techniques and slide shows** 4.1 Create a new presentation, AutoContent Wizard, Design Template, Blank Presentation,Open an Existing Presentation, PowerPoint screen, Screen Layout 4.2 Working with slides: Insert a new slide, Notes, Slide layout, Apply a design template,Reorder Slides, Hide Slides, Hide Slide text, Add content, resize a placeholder or textbox, Move a placeholder or text box, Delete a placeholder or text box, Placeholder orText box properties, Bulleted and numbered lists, Adding notes 4.3 Work with text: Add text and edit options, Format text, Copy text formatting, Replacefonts, Line spacing, Change case, Spelling check, Spelling options	**6 h**

	4.4 Working with tables: Adding a table, Entering text, Deleting a table, Changing rowwidth, Adding a row/column, Deleting a row/column, Combining cells ,Splitting a cell,Adding color to cells, To align text vertically in cells, To change table borders,Graphics, Add clip art, Add an image from a file, Save & Print, slide shows, slideanimation/transitions.	
Unit 5	**Internet & Applications:** 5.1 Computer Network Types: LAN, PAN, MAN, CAN, WAN, Defining and describing theInternet, Brief history, Browsing the Web, Hypertext and hyperlinks, browsers,Uniform resource locator 5.2 Internet Resources: Email, Parts of email, 5.3 Protecting the computer: Password protection, Viruses, Virus protection software,Updating the software, Scanning files, Net banking precautions. 5.4 Social Networking: Features, Social impact, emerging trends, issues, Social Networking sites: Facebook, Twitter, linkedin, orkut, online booking services 5.5 Online Resources: Wikipedia, Blog, Job portals, C.V. writing 5.6 e-learning: e-Books, e-Magazines, e-News papers, OCW(open course wares): Sakshat(NPTEL) portal, MIT courseware	**4 h**
Unit 6	**Cloud Computing Basics** 6.1 Introduction to cloud computing 6.2 Cloud computing models: SAS, AAS, PAS 6.3 Examples of SAS, AAS, PAS (DropBox, Google Drive, Google Docs, Office 365 Prezi, etc.)	**3 h**

Suggested readings:

1. TCI, "Introduction to Computers and Application Software", Publisher: Jones & Bartlett Learning, 2010, ISBN: 1449609821, 9781449609825
2. Laura Story, Dawna Walls, "Microsoft Office 2010 Fundamentals", Publisher: Cengage Learning, 2010, ISBN: 0538472464, 9780538472463
3. June Jamrich Parsons, Dan Oja, "Computer Concepts Illustrated series", Edition 5, Publisher Course Technology, 2005, ISBN 0619273550, 9780619273552
4. Cloud computing online resources

Course Outcomes (COts):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC301A.1	Identify their lacunas about some computer skills and try to overcome the same.	**2**
AC301A.2	Practice the learned computer skills in real life and do their jobs more effectively.	**3**

AC-301(B): Cyber Security

(Technology + Value added Audit course; Practical; 2 Credits)

(Optional: Campus + Program level)

Course Objectives (CObs):

- To make students aware of different daily useful cyber security skills/rules.

Unit 1	**Networking Concepts Overview** Basics of Communication Systems, Transmission Media, ISO/OSI and TCP/IP models, Network types: Local Area Networks, Wide Area Networks, Internetworking, Packet Formats, Wireless Networks: Wireless concepts, Advantages of Wireless, Wireless network architecture, Reasons to use wireless, Internet	**3 h**
Unit 2	**Security Concepts** Information Security Overview, Information Security Services, Types of Attacks, Goals for Security, E-commerce Security, Computer Forensics, Steganography. Importance of Physical Security, Biometric security & its types, Risk associated with improper physical access, Physical Security equipments. Passwords: Define passwords, Types of passwords, Passwords Storage – Windows & Linux.	**7 h**
Unit 3	**Security Threats and vulnerabilities** Overview of Security threats, Hacking Techniques, Password Cracking, Types of password attacks, Insecure Network connections, Wi-Fi attacks & countermeasures, Information Warfare and Surveillance. Cyber crime: e-mail related cyber crimes, Social network related cyber crimes, Desktop related cyber crimes, Social Engineering related cyber crimes, Network related cyber crimes, Cyber terrorism, Banking crimes	**7 h**
Unit 4	**Cryptography** Understanding cryptography, Goals of cryptography, Types of cryptography, Applications of Cryptography, Use of Hash function in cryptography, Digital signature in cryptography, Public Key infrastructure	**5 h**
Unit 5	**System & Network Security** System Security: Desktop Security, email security: PGP and SMIME, Web Security: web authentication, Security certificates, SSL and SET, Network Security: Overview of IDS, Intrusion Detection Systems and Intrusion Prevention Systems, Overview of Firewalls, Types of Firewalls, VPN Security, Security in Multimedia Networks, Fax Security.	**3 h**
Unit 6	**OS Security** OS Security Vulnerabilities updates and patches, OS integrity checks, Anti-virus software, Design of secure OS and OS hardening, configuring the OS for security, Trusted OS.	**2 h**
Unit 7	**Security Laws and Standards** Security laws genesis, International Scenario, Security Audit, IT Act 2000 and its amendments.	**3 h**

Suggested readings:

1. Skills Factory, Certificate in Cyber Security, Text Book Special edition, Specially published for KBC NMU, Jalgaon
2. BPB Publication, “Fundamentals of Cyber Security”, Mayank Bhushan, Rajkumar Singh Rathore , Aatif Jamshed
3. CreateSpace Independent Publishing Platform, “Cyber Security Basics”, Don Franke, ISBN-13: 978-1522952190ISBN-10: 1522952195
4. Online references

Course Outcomes (COts):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC301B.1	Practice learned cyber security skills/rules in real life.	**3**
AC301B.2	Provide guidance about cyber security skills/rules to their friends, parents and relatives.	**2**

AC-301(C): Seminar + Review Writing

(Technology + Value added Audit course; Optional: Program-level; Practical; 2 Credits)

Course Objectives (CObs):

- To motivate students to develop skills to search, retrieve, interpret, organize, and present relevant biological information.

Writing a Scientific Literature Review:

- Choosing a topic, Deciding the scope of topic, Significance and impact of scientific problem being addressed, Relevance to subject, current issues and social relevance, Strengths and limitations of the study, Enticing broad audience.
- Literature Survey and Information to consider in the review:
  - Literature search using authentic library resources (print and non-print, digital and virtual) for Almanacs, Encyclopaedia, Dissertations, Theses, Research papers, Review articles, Reference/ Textbooks, and Popular articles (INFLIBNET, Google Scholar, PubMed, Highwire, Google patents, Indian patent database, etc.)
  - Analyzing the literature quality (indexing, peer review, citations, journal impact factor, etc.)
- Deciding a writing approach (theoretical, experimental, interpretive, clinical, etc.), prepare the highlights and drawing important conclusion from literature
- Sections to include and tips for writing them: Abstract, Introduction, Body, Discussion, Conclusion, References
- Reference styles (MLA, APA, etc.), Use of bibliography/ reference/ citation managers and generators (Reference Manager, EndNote, RefWorks, Mendeley, Zotero, Qiqqa, etc.)
- Ethics of publication: Approval and consent, Data ethics (accuracy, falsification, fabrication, and confidentiality), Plagiarism and self-plagiarism, collaborative authorship, conflict of interest, legal consequences
- Content similarity detection, Use of anti-plagiarism services (Urkund, iThenticate, Turnitin, Copyscape, Grammarly, etc.)

Seminar Activity:

- Students are encouraged to deliver seminars on the topics of research, preferably published research paper in a reputed and indexed journal to develop presentation skills and enable to build confidence which will lead them to read different themes and enhance their scientific approach and knowledge assimilation abilities.
- Presentations must be created and presented by students using digital platform using a suitable software in the presence of student audience and faculty for evaluation

Course Outcomes (COts):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC301C.1	Retrieve, analyse, comprehend the scientific information on a given topic and derive logical inferences.	**4**
AC301C.2	Compile the scientific information on a topic, verify for similarity index or plagiarism.	**2**
AC301C.3	Deliver the interactive presentation of scientific data before audience and participate in open discussion with confidence.	**2**

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FACULTY OF COMMERCE & MANAGEMENT

MMS (Computer Management) Semester-IV

w.e.f. AY 2022-23

4.1 Human Resource Management

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objectives:

- To understand importance of Human Resource Management.
- To provide essential knowledge of important function of HRM.
- To get acquainted about latest trends & practices of HRM

UNIT 1: Introduction to Human Resource Management (HRM) **[10]**

a. Definitions, Nature, Scope, Objectives & Functions of HRM
b. HRM Vs. Personnel Management, HRM Vs. HRD
c. Role of HR Management
d. Qualities of HR Manager
e. Future Challenges before HRM

UNIT 2: Human Resource Planning **[10]**

a. Concept, Need of HRP
b. Factors Affecting HRP
c. Process of Human Resource Planning
d. Methods of HR Forecasting
e. Requirements of Effective HRP
f. Barriers to HRP

UNIT 3: Recruitment, Selection, Placement, Induction **[10]**

a. Concept, Purpose &Factors Affecting Recruitment
b. Sources of Recruitment
c. Concept of Selection, selection process
d. barriers of selection
e. Concept & Problems of placement
f. Concept and Objective of induction

UNIT 4: Training & Development **[10]**

a. Meaning, Need and Objective of Training,
b. Difference between Training and development
c. Methods of Training : On the Job & Off the Job
d. Evaluation of Training

UNIT 5: Performance appraisal **[10]**

a. Definitions, Objective & Process of Performance Appraisal
b. Methods of Performance Appraisal – Traditional and Modern
c. Problems with Performance Appraisal

UNIT 6: Trends in HRM: **[10]**

a. Human Resource Audit
b. Human Resource Information System
c. Human Resource Accounting
d. HR Balance score card
e. Emotional Intelligence
f. Flexi-time & Flexi-work
g. e-HRM : e-recruitment, e-selection, e-training & e-learning.

REFERENCE BOOKS:

1. Mathis, Jackson, Tripathi, "Human Resource Management: A south Asian Perspective", Cengage Learning
2. GarvyDessler, "Human Resource Management" Pearson
3. Dr K. Ashwathappa, "Human Resource Management" Tata McGraw Hill
4. Lathi, Narkhede, "Human Resource Management", Prashant Publications
5. Seema Sanghi, "Human Resource Management", Macmillion
6. S.S.Khanka, "Human Resource Management",S Chand & Sons
7. Snell, Bohalender, Vohra, "Human Resource Management: A south Asian Perspective", Cengage Learning
8. P. SubbaRao, "Essentials of Human Resource Management", Himalaya Publishing House
9. Pravin Durai, "Comprehensive Human Resource Management", Pearson
10. Wayne Mondy, "Human Resource Management", Pearson
11. Pande/ Basak, "Human Resource Management : Text and Cases", 1st Edition, Pearson
12. Dr. C.B. Gupta, "Human Resource Management", Sultand Chand & Sons
13. Dr. V.S.P Rao, "Human Resource Management", Text & Cases, Excel Books

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4.2 E-Commerce and M-Commerce

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective: To prepare students to acquire the knowledge of recent trends in e-commerce. Also students are prepared for website management which can helpful in industry.

UNIT 1: An overview of E- Commerce **[10]**

a. Fundamentals of ecommerce, Advantages of ecommerce, Comparison between Traditional and e-Commerce
b. Types of E Commerce Solutions, Obstacles in adopting ecommerce Applications
c. Future of E Commerce
d. Electronic data Interchange (EDI).

UNIT 2: Applications of Electronic Commerce **[10]**

a. Application of E Commerce in Direct Marketing and Selling
b. Value Chain Integration
c. Supply Chain Management
d. Financial and Information Services

UNIT 3: Security in E-Commerce **[10]**

a. Security Threats, cryptography, methods of encryption, Certificate Authority, Digital Certificate
b. Secure electronic transition (SET), Secure Socket Layer (SSL)
c. Firewall
d. Virtual private network.

UNIT 4: Electronic Payment Systems [**10]**

a. Internet Payment Process, electronic payments systems, ecash(Customer to Merchant Payments, Peer to Peer Payments, Security). E-wallets, Debit card, Credit card, Smart card
b. Electronic Banking, Electronic Fund Transfers.
c. Website Management

UNIT 5: E-commerce Infrastructure **[10]**

a. Need for an Intelligent Website, technology Infrastructure Required
b. Basic Web Languages for Web Designing
c. Corporate Strategic Infrastructure Required
d. Miscellaneous Website Design Tips

UNIT 6: Basics of M-Commerce **[10]**

a. Overview of M-Commerce - Wireless Application Protocol (WAP), Generations of Mobile Wireless Technology
b. Components of Mobile Commerce
c. Networking Standards for Mobiles

REFERENCES BOOKS:

1. C S V Murthy, "E Commerce-Concepts-Models-Strategies" Himalaya Publishing House, 2002
2. Kenneth Laudon Carol GuercioTraver, Azimuth Interactive, "E-Commerce", 6th Edition, Prentice Hall
3. Henry Chan (The Hong KongPolytechnic Uni), Raymond Lee(The Hong Kong Polytechnic Univ.), TharamDillon (The Hong Kong Polytechnic Univ.), Elizabeth Chang (The Univ. ofNewcastle, Australia), "E-Commerce: Fundamentals and Applications", ISBN: 978-0-47149303-7
4. P. Candance Deans, "E-commerce and M-commerce Technologies", IRM Press, ISBN : 9781591405665

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4.3 Internet Computing with ASP.NET

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective - To prepare students to acquire knowledge of creating interactive websites using ASP.Net. The students will be ready to develop the dynamic commercial websites with the industry required latest technology.

UNIT 1: Introduction **[10]**

a) Introduction to ASP.NET

a. What is ASP.NET?
b. ASP vs. ASP.NET
c. Upgrading HTML Pages to ASP.NET
d. Upgrading ASP Pages to ASP.NET

b) Essentials of ASP.NET

a. Types of web sites in Visual Web Developer
b. ASP.Net Web Page Model (Single Page Model, Two Page Model)
c. Server Side Script Execution

UNIT 2: Objects and Controls **[10]**

a. Working with Web form controls
b. HTML Server Controls
c. Validation Controls
d. AdRotator Controls
e. Detect Browser Capabilities
f. Page Level Errors and Application Level Errors
g. Control Events, Connect Multiple Event to Single Event Handler

Intrinsic Objects

a. Request Object
b. Response Object
c. Session Object
d. Application Object
e. Server Object

UNIT 3: State Management **[10]**

a. Page Level - ViewState
b. User Level - Session
c. Application Level - Application
d. Website Level - Cookies
e. Cleaning the Session State
f. Global Application Class (global.asax)
g. Web Configuration File (web.config)

UNIT 4: Data Access with ADO.NET **[10]**

a. Overview of ADO.NET Objects,
b. Create and retrieve Database Connections
c. SqlDataSource Controls
d. ASP.NET Data-Bound Controls
e. GridView, Repeater, DataList, Details View, Form View

UNIT 5: Master Pages & skins **[10]**

a. Master Page overview
b. How to Create Master Page
c. Configure Content Page
d. Themes and Skins in ASP.NET

UNIT 6: Security and Configuration **[10]**

a. Using the CreateUserWizard control
b. Using the LoginStatus control
c. Using the Login control
d. Using the LoginView control
e. Web.Config vs. Machine.Config

REFERENCE BOOKS:

1. Crouch Matt J, "ASP.NET and VB.NET Web Programming", Addison Wesley 2002.
2. J.Liberty, D.Hurwitz, "Programming ASP.NET", 3rd Edition, O'REILLY, 2006
3. SAMS Publication Series
4. www.asp.net
5. www.w3schools.com

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4.4 Java Programming

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

[Required Lectures: **60 hours**]

Objective - To prepare students to acquire knowledge of programming language using Java. The students will be able to create applications in Java

UNIT 1: Introduction **[10]**

a) Introduction to JAVA

a. Features of Java
b. Java Virtual Machine
c. Comparison between C++ and Java

b) Programming Concepts of Basic Java

a. Identifiers and Keywords
b. Data Types in Java
c. Input Output in Java
d. Control structures, decision making statements
e. Arrays
f. String and its methods

UNIT 2: Objects and Classes **[10]**

a) Object Oriented Features

a. Structure of class
b. Constructors
c. Inheritance with its types
d. Access modifiers
e. Polymorphism (Function Overloading and Overriding)

b) Language Features

a. Abstract Class, static, final
b. Interfaces
c. Packages, built in & user defined packages

UNIT 3: Exception Handling **[6]**

a. Types of Exceptions
b. Handling Exceptions using try, catch, throws, finally

UNIT 4: Applets **[6]**

a. Applet Life cycle
b. Applet Tag and its attributes
c. Creating Applets

UNIT 5 : Event Handling **[16]**

a. Event Delegation Model
b. Events (action event, Event Sources & Listeners)

AWT and Swing component

a. Containers, Frames and Panel
b. FlowLayout, BorderLayout, GridLayout
c. MVC Model, Swing Components (JTextbox, JButton**,** JRadioButton, JCheckbox)

UNIT 6: JDBC **[12]**

a. JDBC Model
b. JDBC divers
c. Establishing connection with database

REFERENCES BOOKS:

1. Cay S Horstmann, "Core JAVA" 2 Vol-1 & Vol-2, Gary Cornell
2. "Java by Example 1.2" -The Sun Micro Systems Press, New Delhi
3. E. Balguruswamy, "Programming with Java A Primer"
4. Deitel and Deitel, "Java How toProgram", Prentice Hall
5. Herbarte Scildt, "Complete Reference Java -2", 5th Edition, McGraw Hill
6. "Java-2 Black Box",Tata McGraw Hill

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4.5 Project Work

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

1. Students Group Project is not allowed.
2. Use of CASE tool and testing tools is desirable.
3. Students have to submit Project Report in hard copies as well as in pdf format to the college & college should submit it to university.
4. Marks are Out of 100 (Convert to out of 40 for internal and to out of 60 for external)
5. Project Marking Scheme for MMS (Computer Management) as follow

Criterion	Performance	Scale Of Marking	Total marks	Marks Given
Quantum of Work	Not enough for Project	0	06	
	Just right	2		
	Good amount of work done	4		
	Very-good amount of work	6		
Understanding of project/task objectives	No understanding of project/task objectives	0	06	
	Fair amount of understanding	2		
	Clear understanding of various aspects	4		
	Detailed understanding of the all aspects of the project	6		
Approach adopted	Technically inept, with no motivation to improve	0	06	
	Reasonable level of skills demonstrated	2		
	Technical competence demonstrated	4		
	Outstanding demonstration of technical skills, creative approach	6		
Effort	No evidence of interest in the work	0	06	
	Reasonably good effort	2		
	Conscientious effort	4		
	Excellent amount of effort	6		
Initiative and	No Evidence	0	06	

Criterion	Performance	Scale Of Marking	Total marks	Marks Given
self-motivation	Evidence of some contribution of ideas	2		
	Significant contribution towards developing/refining/doing the task allocated	4		
	Sufficient evidence of handling the tasks independently and efficiently	6		
Achievement of objectives	Not much progress	0	06	
	Adequate but not enough	2		
	Good progress and made best use of the opportunities present	4		
	Outstanding performance	6		
Report Content	Not Submitted	0	06	
	Mostly sound but a lot of scope of improvement	2		
	A very well structured report	4		
	Comprehensive and detailed report	6		
Presentation	Not presented	0	10	
	Okay, but not an overall understanding of what constitutes a presentation	3		
	Well presented	6		
	Very well presented, with clear understanding of goals	10		
Q & A	Not participated	0	08	
	Could handle but confused	2		
	Could handle competently	5		
	Could handle professionally	08		

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4.6 Lab VII – Practical on ASP.NET

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Practical on ASP.NET

1. Demonstration of creating a simple web form
2. Demonstrate how to handle Application Level Errors.
3. Demonstrate how to check Browser Capabilities.
4. Demonstrate the use of Server.Transfer and Query String
5. Demonstrate how to use SiteMapPath control.
6. Demonstrate how to use TreeView control.
7. Demonstrate use of Master Pages.
8. Demonstrate use of global.asax
9. Demonstration of GridView Data Control.
10. Demonstration of ASP.NET objects (HTTPApplicationState, HTTPSessionState)

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4.7 Lab VIII – Practical on Java Programming

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Practical on 4.4 JAVA Programming

1. Create and execute java program to demonstrate use of array.
2. Create and execute java program to demonstrate string methods.
3. Create a program to demonstrate user define package.
4. Create and execute java program to demonstrate exception handling in java
5. Create and execute java program to demonstrate use of inheritance.
6. Create and execute java program to demonstrate implementation of interface.
7. Create and execute java program to display different shapes on an applet.
8. Create java program to demonstrate button event to display HELLO WORLD on Frame
9. Write a program to demonstrate swing components.
10. Create java program to demonstrate Database connectivity

M.B.M.(CM),Sem. IV Audit Courses

(Choose One)

	AC-401(A): Human Rights **(Professional and Social + Value Added Audit course; Practical; 2 Credits)**	
	Course Objectives (CObs): • To make students aware about human rights and human values.	
Unit 1	**Introduction to Human Rights** 1.1 Concept of Human Rights 1.2 Nature and Scope of Human Rights 1.3 Fundamental Rights and Fundamental Duties 1.4 Interrelation of Rights and Duties	**6 hrs.**
Unit 2	**Human Rights in India** 2.1 Meaning and Significance of **:** 1) Right to Equality 2) Right to Freedom, 3) Right against Exploitation, 4) Right to Freedom of Religion, 5) Cultural and Educational Rights, and 6) Right to Constitutional Remedies. 2.2 Constitutional Provisions for Human Rights 2.3 Declaration of Human Rights 2.4: National Human Rights Commission	**8 hrs.**
Unit 3	**Human Values** 3.1: Meaning and Definitions of Values 3.2: Importance of values in the life of Individual 3.3: Types of Values 3.4: Programmes for conservation of Values	**8 hrs.**
Unit 4	**Status of Social and Economically Disadvantaged people and their rights** 4.1: Rights of women and children in the context of Social status 4.2: The Minorities and Human Rights 4.3: Status of SC/ST and other Indigenous People in the Indian Scenario 4.4: Human rights of economically disadvantaged Society	**8 hrs.**
Suggested readings: 1. Human rights education – YCMOU, Nasik 2. Value education – SCERT, Pune 3. Human rights reference handbook – Lucille whare		

Course Outcomes (COts):

On completion of this course, the student will be able to:

CO No.	**CO**	**Cognitive level**
AC401A.1	Practice the learned issues under human rights and human values in real life.	**3**
AC401A.2	Provide social justices to people around them and provide guidance about human rights to their friends, parents and relatives.	**5**

	AC-401(B): Current Affairs (Professional and Social + Value Added Audit course; Practical; 2 Credits)		
	Course Objectives (CObs): • To make students updated about current affairs of India and world.		
	Title	**Content**	**Hours**
Unit 1	Politics & Economy	• National & International Political Activity, Organization. • Economy & Business, Corporate world	08
Unit 2	Awards and recognitions	• National & International Awards and recognitions • Books and authors	07
Unit 3	Science & Technology	• Software, Automobile, Space Research • New inventions and discoveries	07
Unit 4	Environment & Sports	• Summit & conference, Ecology & Climate, Organization. • National & International Games, Olympics, commonwealth etc.	08

Suggested readings (Use recent years' data and current literature):

1. India 2019, by Publications Division Government of India
2. Manorama Year Book by Philip Mathew,
3. India 2019, Rajiv Maharshi
4. Quick General Knowledge 2018 with Current Affairs Update, Disha Experts
5. General Knowledge 2018: Latest Who's Who & Current Affairs by RPH Editorial Board.

Course Outcomes (COts):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC401B.1	Identify important issues currently/ recently happening in India or world.	**5**
AC401B.2	Summarize current affairs regularly.	**6**

AC-401(C): Seminar + Review Writing

(Technology + Value added Audit course; Optional: Program-level; Practical; 2 Credits)

Course Objectives (CObs):

- To motivate students to develop skills to search, retrieve, interpret, organize, and present relevant biological information.

Writing a Scientific Literature Review:

- Choosing a topic, Deciding the scope of topic, Significance and impact of scientific problem being addressed, Relevance to subject, current issues and social relevance, Strengths and limitations of the study, Enticing broad audience.
- Literature Survey and Information to consider in the review:
  - Literature search using authentic library resources (print and non-print, digital and virtual) for Almanacs, Encyclopaedia, Dissertations, Theses, Research papers, Review articles, Reference/ Textbooks, and Popular articles (INFLIBNET, Google Scholar, PubMed, Highwire, Google patents, Indian patent database, etc.)
  - Analyzing the literature quality (indexing, peer review, citations, journal impact factor, etc.)
- Deciding a writing approach (theoretical, experimental, interpretive, clinical, etc.), prepare the highlights and drawing important conclusion from literature
- Sections to include and tips for writing them: Abstract, Introduction, Body, Discussion, Conclusion, References
- Reference styles (MLA, APA, etc.), Use of bibliography/ reference/ citation managers and generators (Reference Manager, EndNote, RefWorks, Mendeley, Zotero, Qiqqa, etc.)
- Ethics of publication: Approval and consent, Data ethics (accuracy, falsification, fabrication, and confidentiality), Plagiarism and self-plagiarism, collaborative authorship, conflict of interest, legal consequences
- Content similarity detection, Use of anti-plagiarism services (Urkund, iThenticate, Turnitin, Copyscape, Grammarly, etc.)

Seminar Activity:

- Students are encouraged to deliver seminars on the topics of research, preferably published research paper in a reputed and indexed journal to develop presentation skills and enable to build confidence which will lead them to read different themes and enhance their scientific approach and knowledge assimilation abilities.
- Presentations must be created and presented by students using digital platform using a suitable software in the presence of student audience and faculty for evaluation

Course Outcomes (COts):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC401C.1	Retrieve, analyse, comprehend the scientific information on a given topic and derive logical inferences.	**4**
AC401C.2	Compile the scientific information on a topic, verify for similarity index or plagiarism.	**2**
AC401C.3	Deliver the interactive presentation of scientific data before audience and participate in open discussion with confidence.	**2**

	AC-401(D): Intellectual Property Rights (IPR) (Professional and Social + Value Added Audit course; Practical; 2 Credits)	
	Course Objectives (CObs): • To provide basic knowledge on intellectual property rights and their implications. • To understand ethical issues relevant to biology from the perspective of national and international law.	
Unit 1	**History and Introduction to Intellectual Property Rights:** Evolution of patent Laws, History of Indian Patent System, Concept of IPR, Designs, Trademarks TM, Trade Secret (TS), Domain Names, Geographical Indications, Copyright	**6 hrs.**
Unit 2	**Classification of patents and ownership:** Classification of patents in India, Classification of patents by WIPO, Categories of Patent, Special Patents Ownership of patent, Rights of patent holder and co-owners, Duties of patent holder and co-owners, Transfer of patent Rights, Limitations of patent Rights, Restoration of Patents, Infringement of patent Rights and Offences, Actions against Infringement and Remedies and Relief	**6 hrs.**
Unit 3	**Procedure of Trademark registration in India** Understanding of complete lifecycle of **Trademark registration**	**6 hrs.**
Unit 4	**Procedure of copyright registration in India** Understanding of complete lifecycle of **copyright registration**	**6 hrs.**
Unit 5	**Procedure of Patent registration in India** Understanding of complete lifecycle of **copyright registration**	**6 hrs.**

Suggested readings:

1. Complete Reference to Intellectual Property Rights Laws. (2007). Snow White Publication Oct.
2. Deepa Goel, Shomini Parashar (2013) IPR, Biosafety and Bioethics Always learning, Pearson Education India, ISBN 9332514240, 9789332514249
3. Department of Biotechnology http://dbtindia.gov.in/guidelines-biosafety
4. Ganguli, P. (2001). Intellectual property rights: Unleashing the knowledge economy. New Delhi: Tata McGraw-Hill Pub.
5. International Union for the Protection of New Varieties of Plants. http://www.upov.int
6. Kuhse, H. (2010). Bioethics: An anthology. Malden, MA: Blackwell.
7. National Biodiversity Authority. http://www.nbaindia.org
8. National Portal of India. http://www.archive.india.gov.in
9. Office of the Controller General of Patents, Design & Trademarks; Government of India. http://www.ipindia.nic.in/
10. Wolt, J. D., Keese, P., Raybould, A., Fitzpatrick, J. W., Burachik, M., Gray, A., Wu, F. (2009). Problem formulation in the environmental risk assessment for genetically modified plants. Transgenic Research, 19(3), 425-436. doi:10.1007/s11248-009-9321-9
11. World Intellectual Property Organisation. http://www.wipo.int
12. World Trade Organisation. http://www.wto.org

Course Outcomes (COts):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC401D.1	Understand to classify, identify advantages of intellectual property and IPR	**3**
AC401D.2	Understand complete lifecycle of IPR registration	**2**