

Circular file

- 22 -

**DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY****CIRCULAR NO.SU/BCA/CBC & GS/15/2018**

In Supersession of the Circular No. Su/BCA/CBC & GS/12/2018 18062-312 dated 20-8-2018 along with the syllabi of first to third year. It is further informed to all concerned that, **As decided by the Academic Council held on 30-06/02-07-2018 the syllabi of BCA Ist Year, Semester Ist as circulated earlier vide No.su/2018/14151-551 dated 17-07-2018 is remained unchanged and uploaded on the University web site [www.bamu.ac.in](http://www.bamu.ac.in).**

This is effective from the Academic Year 2018-2019 and onwards

Kindly take a note of this circular and bring notice to the students, teachers and staff for their information and necessary action.

University Campus,  
Aurangabad-431 004.

REF.NO.SU/MGT/2018-19/ 18358 - MA \*  
Date:- 31-08-2018. 18608 \*  
\*\*\*\*\*

  
**Deputy Registrar,  
Syllabus Section.**

**Copy forwarded with compliments to :-**

- 1] **The Principals, affiliated concerned Colleges,  
Dr. Babasaheb Ambedkar Marathwada University.**
- 2] **The Director, University Network & Information Centre, UNIC, with a  
request to upload this Circular on University Website.**

**Copy to :-**

- 1] The Director, Board of Examinations & Evaluation,
- 2] **The Section Officer, [ B.Com.Unit ] Examination Branch,**
- 3] The Section officer, [Eligibility Unit],
- 4] **The Programmer [Computer Unit-1] Examinations,**
- 5] **The Programmer [Computer Unit-2] Examinations,**
- 6] The In-charge, [E-Suvidha Kendra],
- 7] The Public Relation Officer,
- 8] The Record Keeper,

- 27 -

**D.R. BABASAHEB AMBEDKAR  
MARATHWADA UNIVERSITY,  
AURANGABAD.**



Curriculum of

BACHELOR OF COMPUTER APPLICATION

(BCA)

1ST YEAR

under Choice Based Credit & Grading System

SEMESTER FIRST

*[ Effective from the Academic Year 2018-19 & onwards ]*

**DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY, AURANGABAD.****FACULTY OF MANAGEMENT SCIENCE.****Syllabus - Bachelor of Computer Application (BCA)****Choice Based Credit System (CBCS) - 2018-19**

| <b>Semester &amp; Credits</b> | <b>Core Course [04]</b>  | <b>Ability Enhancement Compulsory Courses [AEC] [01]</b> | <b>Discipline Specific Elective [DSE] [01]</b>  |
|-------------------------------|--|--|---|
| <b>I<br/>Credit 24</b>        | 1. Accountancy – I<br>2. Industrial Economics<br>3. Business Statistics<br>4. Operating System – I | 1. Communication Skills                                  | Elective Paper [Any One]<br>1. Office Automation Tools<br>2. Basic Web Technology - I |
| <b>Total Credits<br/>24</b>   | <b>No. of Credits : 16</b>   | <b>No. of Credits :04</b>                                | <b>No. of Credits : 04</b>  |



**FIRST SEMISTER**

| Paper Number | Subject/ Title of the Paper                            | Course                                 | Weekly |    | Credits       |    | IA  | UA  | Total Marks | Duration of Theory Exam |
|--------------|--|--|--------|----|---------------|----|-----|-----|-------------|-------------------------|
|              |  |  | Th     | Pr | Th            | Pr |     |     |             |                         |
| I            | Financial Accounting – I                               | Core Course                            | 4      | -  | 4             | -  | 20  | 80  | 100         | 3 Hrs                   |
| II           | Industrial Economics                                   | Core Course                            | 4      | -  | 4             | -  | 20  | 80  | 100         | 3 Hrs                   |
| III          | Business Statistics                                    | Core Course                            | 4      | -  | 4             | -  | 20  | 80  | 100         | 3 Hrs                   |
| IV           | Operating System – I                                   | Core Course                            | 2      | 4  | 2             | 2  | 20  | 80  | 100         | 3 Hrs                   |
| V            | Business Communication                                 | Ability Enhancement Compulsory         | 4      | -  | 4             | -  | 20  | 80  | 100         | 3 Hrs                   |
| VI           | 1.Office Automation Tools<br>2.Basic Web Technology –I | Discipline Specific Elective [Any One] | 2      | 4  | 2             | 2  | 20  | 80  | 100         | 3 Hrs                   |
|              | Total  |  | 20     | 8  | 20 + 4<br>=24 |    | 120 | 480 | 600         | --                      |

**Paper I-****ACCOUNTANCY – I****Theory 80****Sessional 20****Credits 04**

- 
1. Double Entry Accounting System Introduction and concept & Advantages, Accounting Cycle, Types of Account, Journalizing Rules, Subsidiary Books, Ledger, Trial Balance
  2. Cash Book – Single Column & Double Column.
  3. Trading ,Profit and Loss Account and Balance Sheet ( Simple exercise on Sole Trader, Final Account expected )
  4. Partnership Account: Introduction, Preparation of Partnership Final Accounts.
  5. Depreciation Introduction, meaning and definition, methods of Depreciation 1. Fixed Installment Method 2. Reducing Balance Method

**Reference Books:**

1. Shukla & Greval “ Advanced Accounts “ S. Chand & Co.
2. Batliboy “ Advanced Accounting “ , Standard Accounting Publication.
3. Khan & Jain “ Financial Management “ Tats Mc Graw Hill.
4. S.C Kuchal “ Financial Management “

**PAPER II -****INDUSTRIAL ECONOMICS**

Theory 80

Sessional 20

Credits 04

- 
1. ~~Definition and scope of Business/Industrial Economics – Micro, Macro – Economics –~~  
Significance of Economics. Role in Business/Industrial decisions Economic Systems.
  2. Indifference Curve Analysis, Properties of Indifference Curves, Consumer equilibrium, Income effect, Price effect and Substitution effect.
  3. Production - Meaning - Laws of Returns.
  4. Economic Development:- Concept, of Economic Development, Indicators of Economic Development, Factors promoting Economic Development, Obstacles in the Economic Development of under developed countries, Features of under developed economy with reference to India.

**Reference Books:**

1. Business Economics by Prof. V.G. Mankar
2. Industrial Organisation and Engg. Economics by T.R. Banga, S.C. Sharma
3. Business and Managerial Economic by Sampat Mukherjee
4. Financial Institutions and Economic Growth in India. by Goyal, O.P.
5. Modern Economic Theory by K K Dewett

**PAPER III -**

**BUSINESS STATISTICS**

Theory 80

Sessional 20

Credits 4

- 
1. ~~Introduction, Origin & Growth of Statistics, Definitions, Functions, Scopes and Limitations~~

---

  2. Organising Statistical Survey, Planning the Survey, Scope of Survey Techniques of data Collection.
  3. Sampling and sample designs.
  4. Classification and Tabulation of Data.
  5. Measures of Central Value - Mean, Median and Mode.
  6. Measures of Dispersion - Range, Quartile Deviation, Mean Deviation, Standard Deviation.
  7. Correlation Analysis: Introduction, Utility of the study of correlation, Correlation and Causation, Types of correlation - Positive and Negative Correlation Karl Pearson's Coefficient of Correlation.

**Reference Books:-**

1. Seymour Lipschutz Probability - Schaum Outline series. Mc Graw Hill.
2. M.C. Shukla and S.S. Gulshan - Statistic S. Chand & Co. New Delhi.
3. V. Seetharaman - A Text book of Statistics - M. Nandana South Bros.
4. Gupta and Kapoor Fundamental of Statistics.
5. D.N. Elhance Statistical Methods

**PAPER IV –****OPERATING SYSTEM- I****Theory 80****Sessional 20****Credits 4**

---

---

**1. Operating System concept, Its necessity, functions**

---

2. Memory Management; Device Management; Job Scheduling, I/O Management, Resource Management, Types of Operating System.
3. DISK OPERATING SYSTEM ( DOS) System Prompt, Default Device, File Directory, Display of files, Directory handling, copying, deleting files,
4. Windows Exploring Windows, Settings, Control Panel, Add Remove Hardware, Printers, Date Time Regional Settings, Games, File Handling activities, Recycle Binetc.
5. Study of Internal & External Commands of MS-DOS DIR (With Options) DATE, TIME, CLS, COPY CON, EDIT, COPY, DELETE, REN, FORMAT, FIND, RESTORE, PROMPT, PATH, MORE, TYPE, VER, VOL, CHKDSK, DISKCOMP, TREE, SYS, MEM, XCOPY, Wild Card Characters, Configuring Dos and Batch Files, CONFIG.SYS, BREAK ON/OFF, BUFFER, FILES, SHELL, SET, ECHO, PAUSE, CALL, IF, GOTO, END.

**Reference Books:-**

1. MS-DOS By Peter Norton
2. Dos the Complete reference By Jasma.
3. Mastering Windows . - Pc Software Taxali



**PAPER V – COMMUNICATION SKILLS****Theory 80****Sessional 20****Credits 4**

---

**1. Meaning, Nature, Scope, Importance, Functions and Limitations of Communication.**

---

2. Elements of Communications - Principles of Communication, Barriers to effective Communication.

**3. Communication Skills:****a) Oral Communication:**

Effective speaking - Principles of effective oral communication, speech preparation - guidelines for effective speech. listening skills - telephonic and group communication - Board and union Meetings - Interviews, their types, techniques and styles.

**b) Written Communication:**

Meaning and objective of written communication - Medias of written communication - Features of written communication - Preparation, analysis and interpretation of reports. Business letter writing - Application, references, Preparation of Tenders and Quotations - Drafting of sales circular letters.

4. Use of electric equipments in Business Communication - A hands on experiments on Telex, Fax, Pager, Cellular Phone, Computer and Internet.

**Reference Books:-**

1. Handbook Business Correspondence - Frailey
2. Technical & Professional Communication - Hickini.
3. Communication Dynamics Dr. Mrs. V.S. Mishra
4. Business Communication Richard Huseman.
5. Business Communication Bhende, Pradhan & Others.
6. Communication C. S. Rayndu
7. Business Communication Ray & Ray 8. Communication in I T Age Dhiraj Sharma

---

---

**PAPER VI - E1: OFFICE AUTOMATION TOLLS**

---

**Theory 80****Sessional 20****Credits 4**

**Familiarizing with different devices and facilities of computer system.**

**Study of MS-Word , Excel & Power Point:**

1. Features and tools of MS-Office, Word, Excel, Power Point.
2. **Word:** Creating word documents, menu, office assistant working with files , editing text, saving, printing , undo, redo, spelling, formatting, ruler, selecting, cutting, copying, numbering, bullets, page, orientation, margins, tables in a document, formatting text in table, addition deletion of rows columns, record handling, sorting, label, & envelop, using forms, Recycle bin. Protection of documents, mail merge.
3. **Excel:** Excel Sheet creation, entering data, layout and formatting of sheet preview & print, working with range, rows, columns, total, sorting using formatting toolbars, format cells, cell content moving & coping grouped & ungrouped worksheet alignment of text, border colors, page setup, chart, types of chart merging sizing printing chart objects, formatting charts, formula palette , functions & uses - Analysing data with excel.
4. **Power Point:** Creating a presentation, modifying visual elements, adding objects, applying transition, animation and linking, preparing layouts, presenting a slide show.

**Reference Books:-**

1. Courter Marquis - Office - 2000
2. Courter Marquis - Office - 97
3. Mansfield - MS- Office
4. Swell - MS- Office - 97
5. Syber Publication - Office- 2000 Complete Ulrich, L. - Sams Teach Your self 2000.

**PAPER VI****E1: BASIC OF WEB TECHNOLOGY****Theory 80****Sessional 20****Credits 4****Unit I HTML & Forms**

Introduction To HTML, WWW, W3C, web publishing, Common HTML, Tags Physical & Logical, Some basic tags like, changing background color of page, text color etc., Text formatting tags, ,tags, Ordered & Unordered Lists Tags, Inserting image, Links: text, image links, image mapping ,

**Unit II Table**

Tables , Frames, Form Introduction with text box, text area, buttons, List box, radio, checkbox, header & footer, Index form creating, mobile responsive, videos, songs.

**Unit III CSS**

Introduction To Style sheet, types of style sheets- Inline, External, Embedded CSS, text formatting properties, CSS Border, margin properties, Positioning Use of classes in CSS, color properties, use of <div>& <span>, padding, CSS multiple columns.

**Unit IV JavaScript Basic**

Introduction to Java Script, variable, commands, operations, syntax, objects, data types, JavaScript DOM theory.

**Reference Books:**

1. HTML, DHTML, JavaScript, Perl & CGI Ivan Bayross
2. HTML & CSS : The Complete reference, Fifth Edition By Thomas Powell
3. Html, Xhtml, And Css Bible (English) 5th Edition (paperback) by Schafer, Steven
4. HEAD FIRST HTML AND CSS, 2/ED (UPDATED FOR HTML) by ROBSON
5. Beginning HTML and CSS (English) (Paperback) by Rob Larsen
6. Learn to Code HTML and CSS (English) (Paperback) by Howe
7. Javascript Bible (English) 7th Edition by Danny Goodman Michael Morrison Paul Novitski Tia GustaffRayl
8. Javascript Programming: Pushing the Limits (English) 1st Edition By (2013)Jon Raasch
9. Head First JavaScript (2007) By michael Morrison



Circular file

- 31 -

**DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY****CIRCULAR NO.SU/Commerce & Management/ II Sem./32/2018**

It is hereby inform to all concerned that, on the recommendation of the Dean, Faculty of Commerce & Management, the Hon'ble Vice-Chancellor in his emergency powers under Section-12(7) of the Maharashtra Public Universities Act, 2016 has accepted the syllabus of **B.Com., BBA & BCA II Sem.** on behalf of the Academic Council\_ to be applied from the Academic Year 2018-2019 and onwards.

All concerned are requested to note the contents of this circular and bring notice to the students, teachers and staff for their information and necessary action.


University Campus,  
Aurangabad-431 004.

REF.NO. SU/ COMMERCE/2018-19.

Date:- 26-11-2018.

20603 - 21053

★  
★  
★  
★  
★  
★  
★  
★  
★

  
**Deputy Registrar,  
Syllabus Section.**

**Copy forwarded with compliments to :-**

- 1] **The Principals, affiliated concerned Colleges,  
Dr. Babasaheb Ambedkar Marathwada University.**
- 2] The Director, University Network & Information Centre, UNIC, with **a request to upload this Circular on University Website.**

**Copy to :-**

- 1] The Director, Board of Examination & Evaluation,
- 2] **The Section Officer, [ B.Com. Unit ] Examination Branch,**
- 3] The Section officer, [Eligibility Unit],
- 4] **The Programmer [Computer Unit-1] Examinations,**
- 5] **The Programmer [Computer Unit-2] Examinations,**
- 6] The In-charge, [E-Suvidha Kendra], Rajarshi Shahu Maharaj Pariksha Bhavan, Dr. Babasaheb Ambekar Marathwada University.
- 7] The Public Relation Officer,
- 8] The Record Keeper.

**DR. BABASAHEB AMBEDKAR  
MARATHWADA UNIVERSITY,  
AURANGABAD.**



**Curriculum of**

**BACHELOR OF COMPUTER APPLICATION**

**(BCA)**

**1ST YEAR**

**SECOND SEMESTER**

**under Choice Based Credit & Grading System**

*[ Effective from the Academic Year 2018-19 & onwards ]*

*(Handwritten signature)*

**FACULTY OF COMMERCE & MANAGEMENT .**

Structure - Bachelor of Computer Application (BCA)

Choice Based Credit System (CBCS) - 2018-19

| <b>Semester &amp; Credits</b> | <b>Core Course [24]</b>   | <b>Ability Enhancement Compulsory Courses [AEC] [6]</b> | <b>Discipline Specific Elective [DSE] [6]</b>   |
|-------------------------------|---|---|---|
| I<br>Credit 24                | 1. Financial Accounting – I<br>2. Industrial Economics<br>3. Operating System – I<br>4. Business Statistics         | 1. Business Communication                               | Elective Paper [Any I]<br>1. Office Automation Tools<br>2. Basic Web Technology - I     |
| II<br>Credit 24               | 1. Financial Accountancy – II<br>2. Programming in C<br>3. Operating System – II (LINUX)<br>4. Business Mathematics | 1. Industrial Organisation                              | Elective Paper [Any One]<br>1. UNIX Operating System II<br>2. Basic Web Technology - II |
| III<br>Credit 24              | 1. Principles of Management<br>2. OPSS using C++<br>3. Business Law - I<br>4. DBMS                                  | 1. E-Business Essentials                                | Elective Paper [Any One]<br>1. Data Structure & Algorithm<br>2. RDBMS using ORACLE      |
| IV<br>Credit 24               | 1. Cost Accountancy<br>2. Java Programming<br>3. MIS & DSS<br>4. Business Law – II                                  | 1. Entrepreneurship Development                         | Elective Paper [Any One]<br>1. PC Maintenance<br>2. Advance Networking                  |
| V<br>Credit 24                | 1. Management Accounting<br>2. SQL 2017<br>3. VB<br>4. Organisational Behaviour                                     | 1. Software Engineering                                 | Elective Paper [Any One]<br>1. Banking & Insurance<br>2. Retail Management              |
| VI<br>Credit 24               | 1. Elements of Commercial Portals (HTML 5)<br>2. Android 9<br>3. Business Law III<br>4. Project                     | 1. Software Testing                                     | Elective Paper [Any One]<br>1. Services Marketing<br>2. Export Management               |
| <b>Total Credits 144</b>      | <b>No. of Credits : 96</b>  | <b>No. of Credits : 24</b>                              | <b>No. of Credits : 24</b>  |

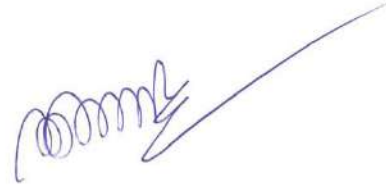
**DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY, AURANGABAD.**

**FACULTY OF MANAGEMENT SCIENCE.**

Syllabus - Bachelor of Computer Application (BCA)

Choice Based Credit System (CBCS) - 2018-19

| <b>Semester &amp; Credits</b> | <b>Core Course [04]</b>  | <b>Ability Enhancement Compulsory Courses [AEC] [01]</b> | <b>Discipline Specific Elective [DSE] [01]</b>  |
|-------------------------------|--|--|---|
| <b>II<br/>Credit 24</b>       | 1. Accountancy – II<br>2. Industrial Organisation<br>3. Mathematics<br>4. Programming in C | 1. Principles of Management                              | Elective Paper [Any One]<br>1. Operating System – II (UNIX)<br>2. Basic Web Technology - II |
| <b>Total Credits<br/>24</b>   | <b>No. of Credits : 16</b>   | <b>No. of Credits :04</b>                                | <b>No. of Credits : 04</b>  |



## SECOND SEMESTER

| Paper Number | Subject/ Title of the Paper                                  | Course                                 | Weekly    |          | Credits            |    | IA         | UA         | Total Marks | Duration of Theory Exam |
|--------------|--|--|-----------|----------|--------------------|----|------------|------------|-------------|-------------------------|
|              |  |  | Th        | Pr       | Th                 | Pr |            |            |             |                         |
| VII          | Accountancy – II   | Core Course                            | 4         | -        | 4                  | -  | 20         | 80         | 100         | 3 Hrs                   |
| VIII         | Industrial Organisation                                      | Core Course                            | 4         | -        | 4                  | -  | 20         | 80         | 100         | 3 Hrs                   |
| IX           | Mathematics  | Core Course                            | 4         | -        | 4                  | -  | 20         | 80         | 100         | 3 Hrs                   |
| X            | Programming in C   | Core Course                            | 2         | 4        | 2                  | 2  | 20         | 80         | 100         | 3 Hrs                   |
| XI           | Principles of Management                                     | Ability Enhancement Compulsory         | 4         | -        | 4                  | -  | 20         | 80         | 100         | 3 Hrs                   |
| XII          | 1.Operating System- II (UNIX)<br>2.Basic Web Technology – II | Discipline Specific Elective [Any One] | 2         | 4        | 2                  | 2  | 20         | 80         | 100         | 3 Hrs                   |
|              | <b>Total</b>   |  | <b>20</b> | <b>8</b> | <b>20 + 4 = 24</b> |    | <b>120</b> | <b>480</b> | <b>600</b>  | <b>- -</b>              |



**PAPER VII –****ACCOUNTANCY – II**

**Theory 80**  
**Sessional 20**  
**Credits 4**

1. Goodwill of Partnership Firm  
 Meaning, Need, factors affecting Goodwill, Methods of valuing Goodwill, - Average Profit Method, Super Profit Method
2. Accounts of Non Trading Concern –  
 Preparation of Receipts and Payment Accounts, Income and Expenditure Account and Balance Sheet
3. Company Final Accounts  
 (Treatment of Provisions, Treatment of Dividends, Interim & Final Dividend on shares, Income Tax on Dividends, Payment of Dividends, Unclaimed Dividends, Treatment of Preliminary Expenses, Capital Profit, Income Tax Provision, Advance Payment, Payment of Tax, TDS, -- Simple exercises expected).
4. Single Entry System  
 Concept- Ascertainment of Profit from records of single entry method

**Books:-**

1. Shukla & Greval "Advanced Accounts" S. Chand & Co.
2. Batliboy "Advance Accounting", Standard Accounting Publication.
3. Khan & Jain "Financial Management" Tats Mc Graw Hill.
4. S.C Kuchal "Financial Management"

**Practical's for Internal Assessment**

- 1.
- 2
- 3
- 4
- 5 Any Other Suitable Practical.

**PAPER VIII –****INDUSTRIAL ORGANISATION**

**Theory 80**  
**Sessional 20**  
**Credits 4**

1. Concept of Industrialization: What is Industrialization, its determinates Problems of Industrialization, Corporate Social Responsibility of Business (CSR)
2. Scale of Operation and Size of Business Units (with special reference to India). Economics of Scales, Meaning of large Medium and small size business- relative advantages and Disadvantages
3. Concept of concentration of power: combinations, Process of Integration vertical Horizontal Lateral and Diagonal and service integration types: Pools, Trusts Carte. Holding Companies, Syndicates Mergers and Amalgamation Multi- directorship Interlocking, Restructuring and Rationalisation.
4. Industrial Policy Resolutions of 1991 & WTO.
5. Corporate structure of business and essentials of Corporate Governance

**Books :**

1. Industrial Organisation & Engg. Economics by T.R. Banga, S.C. Sharma
2. Management & Organisation by C.B. Gupta
3. Industrial Administration & Management by Batty. J.
4. Control Practices in Indian Industries by Dave, Mahendra & Marthy, Guruprasad.
5. Principles of Industrial Organisation by Kimball, K.S. and Kimball D.S.

**Practical's for Internal Assessment**

- 1.
- 2
- 3
- 4
- 5 Any Other Suitable Practical.

**PAPER IX –**

**MATHEMATICS**

**Theory 80**  
**Sessional 20**  
**Credits 4**

1. Logarithms, Rules for multiplication division and exponentiation
2. Permutations, Combinations, and Binomial Theorem.
3. Determinate - different methods of calculating determinants.
4. Matrix - representation - Addition, Subtraction, Multiplication and division.  
Inverse, Transpose, Adjoint - Cofactor - Singular Arrays - Vectors.

**Books:-**

- 1.
- 2.
- 3.

**Practical's for Internal Assessment**

- 1.
- 2
- 3
- 4
- 5 Any Other Suitable Practical.

**PAPER X -****PROGRAMMING IN C**

**Theory 80**  
**Sessional 20**  
**Credits 4**

1. Introduction and importance of C language
2. Constants, variables and data types:- Character set - tokens-constant-keywords and identifiers - variables- data types- declaration and assignment of variables- defining symbolic constants.
3. Operators and Expressions: Arithmetic, Relational and Logical Operators Assignment, increment and decrement of operators - conditional bitwise and special operators - arithmetic expression and its evaluation - hierarchy of arithmetic operations - evaluations, precedence and associatively - mathematical functions.
4. Decision-Making and branching: If statement Switch statement - GOTO statement - The ? : Operators.
5. Decision - Making and Looping: WHILE, DO, and FOR statements.
6. Arrays: One-dimensional - Two - dimensional and Multi-dimensional arrays.
7. Handling of Character Set: Declaration & Initialization of string variables - reading from and Writing to screen -Arithmetic operations - String handling functions
8. Structures and Unions: Definitions initialization and assigning values to member's arrays of Structures and arrays within structures structure with in structure- unions- size of structures.
9. Pointers: Declaration and initialization of pointers - pointer expression - pointer and arrays - pointer and character strings pointers and functions - pointers and structures, pointer on pointers.
10. File Maintenance in "C": Defining, Opening and closing a file - Input/output operations on a file- random access to file - command line arguments.
11. User Defined Functions: Form of "C" functions- calling a function - nesting of functions – recursion - functions with arrays.

**Books:**

1. Programming in "C" E Balgurusamy Tata Cm Graw-Hill
2. The "C" Programming Language :Briain W. Kenigham & Dennis Ritchie
3. The Spirit of "C"- Henry Mulish, Herbert L. Cooper.
4. Mastering "C" - Crain Bolon.

**Practical List for Programming in C Language**

- 1) Write a program to print a message "Welcome to C Language"
- 2) Write a program to print the personal information like Name, Class, College Name, Address, Age, Nationality, Contact No., etc.
- 3) Write a program to accept the personal information and print
- 4) write a program for addition, subtraction, multiplication and division of given number
- 5) Write a program to accept the marks of six subject the calculate the percentage
- 6) Write a program to print the table of given number
- 7) Write a program to find that entered number is even or odd
- 8) Write a program to print the even and odd number up to given number
- 9) Write a program to print the alphabets from a to z and z to a
- 10) Write a program to display the ASCII value of a to z alphabets
- 11) Write a program to find the prime number up to given number
- 12) Write a program to find that entered number is prime or not

- 13) Write a program to print the Fibonacci series up to given number
- 14) Write a program to find the area of Perimeter of Triangle & Rectangle
- 15) Write a program to find the area of circle & square
- 16) Write a program to find the positive and negative number using if...else statement
- 17) Write a program to print the days of week & months of year using switch statement
- 18) Write a program to find the entered character is consonant or vowel using switch statement
- 19) Write a program to find the entered is leap or not a leap year using ternary operator
- 20) Write a program to print the class or division using else...if ladder
- 21) Write a program to find the greater number among two number using if else statement
- 22) Write a program using goto and break statement
- 23) Write a program to find the Armstrong Number
- 24) Write a program to print the number from 1 to 10 in ascending and descending order
- 25) Write a program to print the addition of 1 to 10 using array
- 26) Write a program to print the addition of given 10 numbers using array
- 27) Write a program to print the 2 X 2 matrix
- 28) Write a program to print the addition of 2 X 2 matrixes
- 29) Write a program to print the addition of 2 X 3 matrixes
- 30) Write a program to transpose of matrixes
- 31) Write a program to multiplication of matrixes
- 32) Write a program to find the Armstrong number
- 33) Write a program to find the factorial number of given number
- 34) Write a program to print the personal and professional information using structure and union
- 35) Write a program to sort the array using bubble sort technique
- 36) Demonstrate string library function
- 37) Demonstrate recursion function
- 38) Demonstrate pointers
- 39) Create a structure of employee & read record of five employees and display it.
- 40) Create a file student and store the record of ten students
- 41) Demonstrate file handling

**PAPER XI -****PRINCIPLES OF MANAGEMENT****Theory 80****Sessional 20****Credits 4**

- I. Definition, Nature & Scope of Management, Importance, Management as an Art, Science and Profession, Different approaches to Management.
- II. Evolution of Management thought contribution of Taylor, Fayol, Follet, Drucker.
- III. Management Process, Planning, organizing, staffing, Direction, Controlling, coordination, leadership.
- IV. Functional Management, Human Resource Management, Marketing Management, Financial Management, Materials Management.

**Books:**

- 1) Organisation & Management by Agarwal R D
- 2) Management Practice by Varnashi Murthy
- 3) Principles of Management by Tripathi & Reddy

**Practical's for Internal Assessment**

- 1.
- 2
- 3
- 4
- 5 Any Other Suitable Practical.

**PAPER – XII****E.1 - OPERATING SYSTEM II (UNIX)****Theory 80****Sessional 20****Credits 4**

1. The Operating System
2. Structure of Unix
3. Working with Unix
4. VI Editor
5. Shell Programming
6. Special Utilities
7. System Administration
8. Program Development Aids
9. Hello “C” Shell
10. Unix Internals Practicals on Unix. Familiarizing with Unix environment, Execution of different commands of Unix, Shell Programming, files in Unix-

**Books:**

1. Unix in Easy Steps by Mohammed Azam
2. Unix by Kernigham

**Practical List For UNIX Operating System**

- 1) FILE COMMANDS
- 2) DIRECTORY COMMANDS
- 3) SYMOLIC LINKS TERMINAL COMMANDS
- 4) HELP COMMANDS
- 5) INFORMATION COMMANDS
- 6) USEFUL CSHELL SYMBOLS
- 7) PERMISSIONS AND FILE STORAGE (UNIX)
- 8) PERMISSIONS AND FILE STORAGE (ANDREW)
- 9) PROCESSES PRINTING
- 10) ENVIRONMENT
- 11) CUSTOMIZING
- 12) NETWORKING
- 13) X-APPLICATIONS
- 14) UNIX FILTERS

**PAPER – XII****E.2 – Basics of Web Technology-II**

**Theory 80**  
**Sessional 20**  
**Credits 4**

- Unit I : Event handling & Validations on Forms – JavaScript Handling Events on Button, Textbox, radio button, checkbox, drop down box, text area etc. Form Validation – numeric, alphanumeric, alphabets and any combination of these. Disabling the keys on the keyboard, regular expression
- Unit II: VBScript Introduction to VBScript, Variables, Data types, Control Structures & Loops, Functions in VBScript, Client side web scripting, validating forms, DOM, Handling errors
- Unit III: Web Publishing and Advanced HTML Concepts: Publishing the Site, The Realities of Publishing and Maintaining a Web Site, introduction of Search engine optimization, Meta –Information, Overview of Client/Server Programming on the Web.

**Reference Books:**

1. HTML, DHTML, JavaScript, Perl & CGI Ivan Bayross
2. HTML & CSS : The Complete reference, Fifth Edition By Thomas Powell
3. Html, Xhtml, And Css Bible (English) 5th Edition (paperback) by Schafer, Steven
4. HEAD FIRST HTML AND CSS, 2/ED (UPDATED FOR HTML) by ROBSON
5. Beginning HTML and CSS (English) (Paperback) by Rob Larsen
6. Learn to Code HTML and CSS (English) (Paperback) by Howe
7. Javascript Bible (English) 7th Edition by Danny Goodman Michael Morrison Paul Novitski Tia GustaffRayl
8. Javascript Programming: Pushing the Limits (English) 1st Edition By (2013)Jon Raasch
9. Head First JavaScript (2007) By michael Morrison

**Practical List for Basic Web Technology - II**

- 1) Introducing Web Browser and concept of URL and Website
- 2) Write a program to structure of HTML
- 3) Write a program on formatting tags
- 4) Write a program on PRE, DIV, SPAN tags
- 5) Write a program on PRE, DIV, SPAN tags
- 6) Write a program on font, address, marquee tags
- 7) Write a program to text level elements
- 8) Write a program on mailto anchor
- 9) Write a program on img tag with all attributes
- 10) Write a program on table tag with all attributes
- 11) Write a program on frame tag with all attributes
- 12) Write a program on user registration form using all controls and attributes of form tag
- 13) Write a program on rollover button
- 14) Write a program on rollover button
- 15) Write a program on css of embedded styles, inline styles, imported/external styles
- 16) Write a program on adding java script to documents with example
- 17) Write a program on input and output statements of java script