

Circular file

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

In Supersession of the Circular No. Su/BCA/CBC &amp; 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 1st Year, Semester 1st 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 - 11  
Date:- 31-08-2018. 18608

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*[Signature]*  
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,

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**D.R. BABASAHEB AMBEDKAR  
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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 ]*

  
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DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY, AURANGABAD.

FACULTY OF MANAGEMENT SCIENCE.

Syllabus - Bachelor of Computer Application (BCA)

Choice Based Credit System (CBCS) - 2018-19

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

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## 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 2. Basic Web Technology - I	Discipline Specific Elective [Any One]	2	4	2	2	20	80	100	3 Hrs
Total			20	8	20 + 4 = 24		120	480	600	--

  
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Paper I-

ACCOUNTANCY - I

Theory


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 " Tata Mc Graw Hill.
4. S.C Kuchal " Financial Management "

  
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## 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

  
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PAPER III -

BUSINESS STATISTICS



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

  
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PAPER IV -

OPERATING SYSTEM-I



Theory - 80

Sessional 20

Credits 4

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1. Operating System concept, its necessity, functions

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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 Bin etc.

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 |

  
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**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

  
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PAPER VI

E1: OFFICE AUTOMATION TOOLS

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.

  
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PAPER VI

EI: 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.

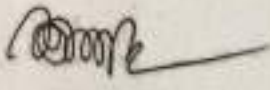
**Unit IV JavaScript Basic**

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

  
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**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 ]*

  
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**FACULTY OF COMMERCE & MANAGEMENT .**


Structure - Bachelor of Computer Application (BCA)

Choice Based Credit System (CBCS) - 2018-19



Semester & Credits	Core Course [24]	Ability Enhancement Compulsory Courses [AEC] [6]	Discipline Specific Elective [DSE] [6]
I Credit 24	1. Financial Accounting - I 2. Industrial Economics 3. Operating System - I 4. Business Statistics	1. Business Communication	Elective Paper [Any I] 1. Office Automation Tools 2. Basic Web Technology - I
II Credit 24	1. Financial Accountancy - II 2. Programming in C 3. Operating System - II (LINUX) 4. Business Mathematics	1. Industrial Organisation	Elective Paper [Any One] 1. UNIX Operating System II 2. Basic Web Technology - II
III Credit 24	1. Principles of Management 2. OPSS using C++ 3. Business Law - I 4. DBMS	1. E-Business Essentials	Elective Paper [Any One] 1. Data Structure & Algorithms 2. RDBMS using ORACLE
IV Credit 24	1. Cost Accountancy 2. Java Programming 3. MIS & DSS 4. Business Law - II	1. Entrepreneurship Development	Elective Paper [Any One] 1. PC Maintenance 2. Advance Networking
V Credit 24	1. Management Accounting 2. SQL 2017 3. VB 4. Organisational Behaviour	1. Software Engineering	Elective Paper [Any One] 1. Banking & Insurance 2. Retail Management
VI Credit 24	1. Elements of Commercial Portals (HTML 5) 2. Android 9 3. Business Law III 4. Project	1. Software Testing	Elective Paper [Any One] 1. Services Marketing 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>

  
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FACULTY OF MANAGEMENT SCIENCE.

Syllabus - Bachelor of Computer Application (BCA)

Choice Based Credit System (CBCS) - 2018-19



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

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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) 2. Basic Web Technology – II	Discipline Specific Elective [Any One]	2	4	2	2	20	80	100	3 Hrs
Total			20	8	20 + 4 = 24		120	480	600	

  
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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. Baitliboy "Advance Accounting", Standard Accounting Publication.
3. Khan & Jain "Financial Management" Tata 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

  
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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 Rationalization.
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.

  
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**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.

  
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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 associativity - 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 :Brian 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


  
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- 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

  
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**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.

  
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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

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## 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

  
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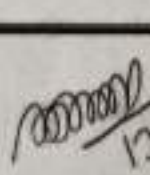
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Curriculum of  
BACHELOR OF COMPUTER APPLICATION  
(BCA)  
IIND YEAR  
THIRD SEMESTER  
under Choice Based Credit & Grading System

[ *Effective from the Academic Year 2019-20 & onwards* ]

  
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FACULTY OF COMMERCE & MANAGEMENT.

Syllabus - Bachelor of Computer Application (BCA)

Choice Based Credit System (CBCS) - 2019-20



Semester & Credits	Core Course [04]	Ability Enhancement Compulsory Courses [AEC] [01]	Discipline Specific Elective [DSE] [01]
III Credit 24	1. Principle of Management 2. OPSS using C++ 3. Business Law - I 4. DBMS	1. E-Business Essential	Elective Paper [Any One] 1. Data Structure & Algorithm 2. RDBMS using ORACLE
Total Credits 24	No. of Credits : 16	No. of Credits : 04	No. of Credits : 04

*[Handwritten signatures and dates]*  
17/6/19      17/6      17/6/19

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**Structure of B. C. A. Third Semester**  
**Choice Based Credit Grading System (CBCS) 2019 - 2020**



Paper Number	Subject/ Title of the Paper	Course	Weekly		Credits		IA	UA	Total Marks	Duration of Theory Exam
			Th	Pr	Th	Pr				
XIII	Principles of Management	Core Course	4	-	4	-	20	80	100	3 Hrs
XIV	OPPS using C++	Core Course	2	2	2	2	50	50	100	2 Hrs
XV	Business Law -I	Core Course	4	-	4	-	20	80	100	3 Hrs
XVI	DBMS	Core Course	4	-	4	-	20	80	100	3 Hrs
XVII	E-Business Essential	Ability Enhancement Compulsory	4	-	4	-	20	80	100	3 Hrs
XVIII	1.Data Structure and Algorithm 2.RDBMS using ORACLE	Discipline Specific Elective [Any One]	2	2	2	2	50	50	100	2 Hrs
<b>Total</b>			<b>20</b>	<b>4</b>	<b>20 + 4 = 24</b>		<b>120</b>	<b>480</b>	<b>600</b>	<b>--</b>

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B.C.A. III<sup>rd</sup> Semester Syllabus (CBCS)  
Paper No. XIII – Principles of Management



Theory – 80 Marks  
Sessional – 20 Marks

	No. of Lectures
Unit - I <b>Introduction of Management</b> : Introduction, Meaning and concept of management, nature, scope, characteristics and importance of management, role and functions of management, level of management, difference between management and administration, brief review of management thoughts of F. W. Taylor, Henry Fayol, Elton Mayo, Peter Drucker etc.	( 12 )
Unit - II <b>Managerial Planning and Decision Making</b> : <b>Planning</b> : meaning and definition, characteristics and importance of planning, planning process, benefits of ideal planning, limitations of planning, types of plans. <b>Forecasting</b> : meaning and definition, methods of forecasting. <b>Decision making</b> : meaning and definition, types of decisions, decision making process	( 12 )
Unit - III <b>Staffing and Organization</b> : <b>Staffing</b> : meaning and definition of staffing, need and importance of staffing, Recruitment: meaning, definition, process, and methods of recruitment, Selection: meaning, definition, selection procedure and training of personnel <b>Organization</b> : meaning, definition and importance of organization, principles of organization, types of organization, difference between accountability and responsibility, centralization of Authority and decentralization of Authority.	( 12 )
Unit - IV <b>Directing and Controlling</b> : <b>Directing</b> : meaning, definition and importance of directing, principles and techniques of directing <b>Controlling</b> : meaning, definition, need and importance of control, process of control, techniques of control	( 12 )
Unit - V <b>Recent Trends in Business Management</b> : Change management, disaster management, TQM, Bench Marking, Six Sigma, <b>Management development</b> : meaning, definition, need and importance, management development process, methods and techniques	( 12 )

**Practical: 20 Marks (to be conducted by the department in each college as per convenience)**

1. Test- 05
2. Tutorial- 10
3. Seminar- 05

**Reference Books :**

1. Principles of management by Dr. K.Natarajan and Dr.K.PGanesan
2. Principles of management by P.Subbarao
3. Principles of management by B.P.Singh / Dr.T.Ramaswamy
4. Principles & Practice - T N Chhabra, Dhanapat Rai & Co. of Management.
5. Management – L.M. Prasad.
6. Makers of Modern India - NBT Publication.
7. Principles and practice of management by Saxena S. C.

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B.C.A. III<sup>rd</sup> Semester Syllabus (CBCS)  
Paper No. XIV – OPFS using C++



Theory – 50 Marks  
Sessional – 50 Marks

	No. of Lectures ( 10 )
<b>Unit - I Introduction to C++ :</b> Basic concepts, object oriented programming Class, Object, Data Abstraction, benefits & applications of OOP, Structure of C++ program, Creating a source file, compiling and Linking, Tokens, Expressions and Control structures: Introduction, Tokens, keywords, Identifiers and constants, Data types - Basic, User defined and Derived, Symbolic constant, Type Compatibility, Variables - Declaration and Dynamic Initialization, Reference variable, Operators in C++, Scope resolution operator, Member Referencing operators, Memory management operators, Manipulators, Type cast operators, Expression and their types, Special Assignment Expressions, Implicit conversions, Operator overloading introduction, Operator precedence, Control structures – if-else, do-while, for, switch	( 10 )
<b>Unit – II Functions in C++ :</b> Introduction, The main function, Function prototyping, Call by reference, Return by reference, Inline function – Making an outside function Inline, Arguments - default, constant, Math library functions.	( 08 )
<b>Unit – III Classes and Objects :</b> Introduction, Creating a class and objects, Defining member functions inside and outside class, Nesting of member functions, Private member functions, Arrays within a class, Memory allocation of objects, Static data members and static member functions, Array of objects, Objects as function arguments, Friend functions, Returning objects, Constructors, Types of constructor, Destructors.	( 14 )
<b>Unit – IV Inheritance :</b> Introduction, Base class and derived class examples, Types of Inheritance, Virtual base class, Abstract class, Constructors in derived class.	( 14 )
<b>Unit – V Polymorphism :</b> Compile Time Polymorphism, Function overloading, Operator Overloading Introduction, Overloading unary and binary operator, Overloading using friend function, Overloading insertion and extraction operators, String manipulation using operator overloading, Runtime Polymorphism, pointers to objects, pointer to derived, classes, Virtual functions and pure virtual functions.	( 14 )

**Practical's U/A : 50 Marks**

- |  |   |          |
|--|---|----------|
| 1. One Test                                | : | 10 Marks |
| 2. Oral                                    | : | 20 Marks |
| 3. Writing of Algorithms in Journal / File | : | 20 Marks |

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**Reference Books :**

1. Object oriented programming with C++ - by E Balagurusamy, Tata McGraw-Hill Publishing.
2. Object Oriented Programming with C++ by Robert Lafore, Galgotia
3. Let us C++ Yeshwant Kanetkar, BpB Publications

**Practical list for programming in C++**

1. Simple C++ Program.
2. Program on Data Types and Operators.
3. Program for Looping and Branching Statement.
4. Program for Reference Variable.
5. Program for Function Overloading.
6. Program for Friend Function and Inline Function.
7. Program for Static Data Member and Function.
8. Program for Operator Overloading.
9. Program for Inheritance.
10. Program for Virtual Function and Classes.


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**B.C.A. III<sup>rd</sup> Semester Syllabus (CBCS)  
Paper No. XV – Business Laws – I**

**Theory – 80 Marks  
Sessional – 20 Marks**

	<b>Periods</b>
<b>Unit - I</b> <b>Indian Contract Act 1872</b> : Meaning and Definition of Agreement and Contract, Features of Contract Act, Types of Contract, Essentials of valid contract, Offer and Acceptance, Breach of Contract	<b>( 12 )</b>
<b>Unit - II</b> <b>Sell of Goods Act 1930</b> : Meaning and Important Definition – Sell of Goods Act, Agreement to sell vs. Contract of sell, Essentials of valid contract of sell, Condition and Warranty, Sell by Auction and Hire Purchase Agreement, Buyers and Sellers Rights and Duties.	<b>( 12 )</b>
<b>Unit - III</b> <b>Negotiable Instrument Act 1881</b> : Concept and Important definition of Act, Promissory Note and Cheque, Characteristics of the Act, Dishonor of Negotiable Instrument, Discharge of Negotiable Instrument, Bills of Exchange.	<b>( 12 )</b>
<b>Unit - IV</b> <b>Consumer Protection Act (Amended Act 2002)</b> : Meaning and Important Definition Of Act, Significance of Consumer Protection, Objectives of the Act, Working of Consumer Protection Council, Composition of consumer disputes redressal agencies.	<b>( 12 )</b>
<b>Unit - V</b> <b>Cyber and IT Act 2000</b> : Important Definition - IT Act 2000, Cyber Fraud and Cyber Cheating, Copy right – Meaning and Definition, License of the Copy Right, Digital Signature, Digital Signature. Certificate.	<b>( 12 )</b>

**Sessional Works : 20 Marks**

- College can take decisions accordingly.

**Reference Books:**

1. Business Law – Dr. Nowlakha
2. Mercantile Law – N D Kapoor
3. Indian Contract Act – Dr. Avtarsingh
4. Mercantile and Industrial Law – M.C Shulka
5. Business Law – Maheshwar
6. Company and Business Law – Shukla and Gerwal
7. Commercial and Industrial Law – Kuchal
8. Cyber Law Simplified – Tata McGrawhill/VivekSood
9. Indian Cyber Law – Suresh T Vishwanathan

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**B.C.A. III<sup>rd</sup> Semester Syllabus (CBCS)  
Paper No. XVI – DBMS**

**Theory – 80 Marks  
Sessional – 20 Marks**

		<b>Periods</b>
<b>Unit - I</b>	<b>Introduction (Theory) :</b> Data, Tables, DBMS, Characteristics of DBMS, need of DBMS, attributes, entity, E-R Diagrams, relationships, ODBMS, Two tier and three tier architecture,	<b>( 10 )</b>
<b>Unit - II</b>	<b>Transactions (Theory) :</b> Concept of transaction, ACID properties, Transaction and system concepts, States of transaction, Serializability, backup and recovery.	<b>( 08 )</b>
<b>Unit - III</b>	<b>Concurrency (Theory) :</b> Concurrent transactions, Two -phase locking techniques, Concurrency control, Locking techniques, E-R Diagram, Deadlock	<b>( 14 )</b>
<b>Unit - IV</b>	<b>Normalization (Theory) :</b> E.F. Codd rules, Normal forms based on primary keys(1 NF, 2 NF, 3 NF, BCNF)	<b>( 14 )</b>
<b>Unit - V</b>	<b>MS-Access (Theory/ Practical) :</b> Primary Key, Foreign Key, Creating tables in MS-Access, creating primary key, foreign key and create queries to fetch data.	<b>( 14 )</b>

**Sessional Works : 20 Marks**

- College can take decisions accordingly.

**Reference Books :**

1. Elmasri&Navathe, Fundamentals of Database systems, Addison &Weisely, New Delhi.
2. H. F. Korth& A. Silverschatz, Database Concepts, Tata McGraw Hill, New Delhi
3. C. J. Date, Database Systems, Prentice Hall of India, New Delhi.
4. Ivan Bayross, SQL,PL/SQL, The programming language of Oracle

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B.C.A. III<sup>rd</sup> Semester Syllabus (CBCS)  
Paper No. XVII – E-Business Essential

Theory – 80 Marks  
Sessional – 20 Marks

	Periods
<b>Unit - I Introduction to e-business :</b> Origin, Concept, Nature ,Definition, Features, Merits, Demerits.	( 10 )
<b>Unit – II E-business Environment:</b> Information society, building process for communities, multi – option society, ethics in electronic business.	( 08 )
<b>Unit - III E-business &amp; ICT :</b> Meaning, history, importance of internet, internet v/s online service, basic, knowledge of computer network, world wide web, web page, website.	( 14 )
<b>Unit - IV E-Business Models &amp; Supply Chain Management :</b> Classification of E business models, definition of supply chain management elements of SC, key issues in SCM.	( 14 )
<b>Unit - V E-Payments :</b> E-Money and E-payments, different forms of E-payment, E-banking RTGS, NEFT, EFT, Internet Banking, Mobile Banking, GOOGLE PAY, PAYTM etc.	( 14 )

**SESSIONAL WORK: 20 Marks**

- 1) One test 05 marks
- 2) One tutorial 05 marks
- 3) Online dummy transactions and list of E-commerce websites 10 Marks

**Reference Books :**


- 1) Rayudu es. E-commerce E-business
- 2) Ravi Kalakos& Marcia Robinson E-business
- 3) Rich , joson R starting an e-commerce business
- 4) Kamlesh Bajaj DebjaniNag , E-Commerce: The cutting Edge of Business Tata McGraw Hill Publication,new Delhi.
- 5) N.S.Toor ,handbook of Banking Information,28<sup>th</sup>Edition,Skylark Publication New Delhi.

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B.C.A. III<sup>rd</sup> Semester Syllabus (CBCS)  
Paper No. XVIII – Data Structure and Algorithm

  
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Theory - 50 Marks  
Practical's U/A - 50 Marks

	Periods
Unit - I <b>Introduction to Data Structure</b> : Introduction to Data Structure : Types , Primitive ,Secondary , Simple Compound , Linear and Non Linear Data Structure	( 10 )
Unit - II <b>Linear Data Structure</b> : Linear Data Structure : Array , Linked List , Queue, Stacks, Operations on linear Data Structure, Memory Representation of Linear Data Structure	( 08 )
Unit - III <b>Non Linear Data Structure</b> : Non Linear Data Structure : Tree , Graphs, Binary Tree Structures , Networks, Operations on Non Linear Data Structure, Implementation of Data Structure in computer memory	( 14 )
Unit - IV <b>Algorithms</b> : Algorithm Concept, Features & Characteristics, Designing of Algorithm for Insertion & Deletion of Records in Array, Linked List, Stack, Queue , Traversal of Linked List, Stack, Queue , Binary Tree	( 14 )
Unit - V <b>Graph Theory and Sorting</b> : Graph Theory : Terminology, Sequential Representation of Graph, Adjacency Matrix , Linked List Representation of Graph, Operations on Graph , Traversing Graph, Bubble Sort , Selection Sort, Merge Sort and Insertion Sort	( 14 )

**Practical's U/A : 50 Marks**

- |  |   |          |
|--|---|----------|
| 4. One Test                                | : | 10 Marks |
| 5. Oral                                    | : | 20 Marks |
| 6. Writing of Algorithms in Journal / File | : | 20 Marks |

**References Books :**

- |                       |   |                              |
|-----------------------|---|------------------------------|
| 1. Tannenbum          | : | Data Structure               |
| 2. Seymour LipSchutz  | : | Data Structure               |
| 3. Aho                | : | Data Structure and Algorithm |
| 4. Bhagat Singh & Nap | : | Data & File Structure.       |
| 5. Droomy             | : | How to solve it by Computer. |

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B.C.A. III<sup>rd</sup> Semester Syllabus (CBCS)  
Paper No. XVIII - RDBMS using ORACLE

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Theory - 50 Marks  
Practical's U/A - 50 Marks

		Periods
Unit - I	RDBMS Definition, Characteristics of RDBMS, Application and advantages of RDBMS, Instances, Schemas and Database States, Three Levels of Architecture, Data Independence, DBMS languages, Data Dictionary, Database Users, Data Administrators. <b>(Theory)</b>	(10)
Unit - II	Data Models, types and their comparison, Entity Relationship Model, Entity Types, Entity Sets, Attributes and its types, Keys, E-R Diagram, Data Integrity, Referential Integrity constraints, Domain Integrity Constraints <b>(Theory)</b>	(08)
Unit - III	Relational Algebra (selection, projection, union, intersection, Cartesian product, Different types of join like theta join, equi-join, natural join, outer join), Relational Calculus, Functional Dependencies, Good & Bad Decomposition, Anomalies as a database: A consequences of bad design <b>(Theory)</b>	(14)
Unit - IV	Introduction to SQL, DDL, DML, and DCL statements, Creating Tables, Adding Constraints, Altering Tables, Update, Insert, Delete & various Form of SELECT-Simple, Using Special Operators for Data Access. Aggregate functions, Joining Multiple Tables (Equi Joins), Joining a Table to itself (self Joins) Functions. <b>(Theory/ Practical)</b>	(14)
Unit - V	Introduction to PL/SQL (blocks of PL/SQL, Variables, constants), Control Structure Introduction to Stored Procedures, Functions, Cursor and Triggers <b>(Theory/ Practical)</b>	(14)




**Practical's U/A : 50 Marks**

1. One Test	:	10 Marks
2. Oral	:	20 Marks
3. Writing of Algorithms in Journal / File	:	20 Marks


**Reference Books :**


1. Elmasri & Navathe, Fundamentals of Database systems, Addison & Wesley, New Delhi.
2. H. F. Korth & A. Silverschatz, Database Concepts, Tata McGraw Hill, New Delhi
3. C. J. Date, Database Systems, Prentice Hall of India, New Delhi.
4. Ivan Bayross, SQL, PL/SQL, The programming language of Oracle

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Curriculum of

BACHELOR OF COMPUTER APPLICATION


(BCA)


IIIND YEAR

FOURTH SEMESTER

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*[ Effective from the Academic Year 2019-20 & onwards ]*

  
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FACULTY OF COMMERCE & MANAGEMENT,

Syllabus - Bachelor of Computer Application (BCA)

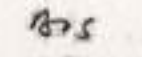
Choice Based Credit System (CBCS) - 2019-20

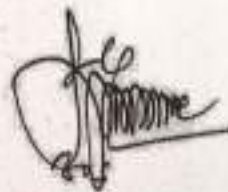


Semester & Credits	Core Course [04]	Ability Enhancement Compulsory Courses [AEC] [01]	Discipline Specific Elective [DSE] [01]
IV Credit 24	1. Cost Accountancy 2. Java Programming 3. MIS & DSS 4. Business Law – II	1. Entrepreneurship Development	Elective Paper [Any One] 1. PC Maintenance OR 2. Advance Networking
Total Credits 24	No. of Credits : 16	No. of Credits : 04	No. of Credits : 04

  
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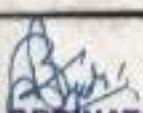
  
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## Structure of B. C. A. Fourth Semester (CBCS) 2019 - 20



Paper Number	Subject/ Title of the Paper	Course	Weekly		Credits		IA	UA	Total Marks	Duration of Theory Exam
			Th	Pr	Th	Pr				
XIX	Cost Accountancy	Core Course	4	-	4	-	20	80	100	3 Hrs
XX	Java Programming	Core Course (Theory)	3	-	2	-	-	50	50	2 Hrs
		Practical	-	1	-	2	-	50	50	2 Hrs
XXI	MIS & DSS	Core Course	4	-	4	-	20	80	100	3 Hrs
XXII	Business Law – II	Core Course	4	-	4	-	20	80	100	3 Hrs
XXIII	Entrepreneurship Development	Ability Enhancement Compulsory	4	-	4	-	20	80	100	3 Hrs
XXIV	1.PC Maintenance OR 2.Advanced Networking	Discipline Specific Elective [Any One] (Theory)	3	-	2	-	-	50	50	2 Hrs
		Practical	-	1	-	2	-	50	50	2 Hrs
<b>Total</b>			<b>22</b>	<b>02</b>	$20 + 4 = 24$		<b>80</b>	<b>520</b>	<b>600</b>	--

\*Note:- As per UGC norms one theory lecture is equal to two practicals.

  
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B.C.A. IV<sup>th</sup> Semester Syllabus (CBCS)  
Paper No. XIX – Cost Accountancy




Theory – 80 Marks  
Sessional – 20 Marks

		Lectures
Unit - I	<b>Cost Accounting</b> : Definition, Nature, & Scope of Cost Accounting, Distinction between Cost, Financial and Management Accounting, Classification & Elements of Cost, Material, Labour, Expenses, Direct & Indirect Cost, Overheads.	( 10 )
Unit - II	<b>Costs</b> : Prime Cost, Factory / Works Cost, Administrative Cost, Total Cost, Cost of Sales	( 08 )
Unit - III	<b>Preparation of Cost Sheet :</b>	( 14 )
Unit - IV	<b>Material</b> : Purchasing, Purchase Requisition, EOQ, Purchase Procedure, Receiving & Recording of Material, Documents, Goods Received Note, Bin Card, Issue of Materials, Pricing Method, LIFO, FIFO, Average Method.	( 14 )
Unit - V	<b>Wages</b> : Compensation, Methods of wage payment, Fixed Rate, Piece Rate, Contract, Bonus, Halsey & Rowan Plan.	( 14 )
	<b>Practical: 20 Marks (to be conducted by the department in each college as per convenience)</b> 1. Test- 05 2. Tutorial- 10 3. Seminar- 05	
	<b>Reference Books :</b> 1. Practical Costing : Khanna, Pande and Ahuja 2. Cost Accounting : Bhatia HSM 3. Principles & Practices of Cost Accounting : N. K. Praasad 4. Cost Accounting ( Methods & Problems ) : B. K. Bhar 5. Fundamental of Costing: S. N. Maheshwari.	

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**B.C.A. IV<sup>th</sup> Semester Syllabus (CBCS)**  
**Paper No. XX – Java Programming**

**Theory – 50 Marks**  
**Sessional – 50 Marks**

		<b>Lectures</b>
<b>Unit - I</b>	<b>Overview of Java Language :</b> Java History, Java Features, How Java Differ from C and C++, JVM, Java Environment, Java Programming Structure, Types of Comment, Java Tokens: Reserve Keywords, Identifiers, Literals, Operators, Separators, Variables, Constant, Data Types, Array, Type Casting, Control Statement : Branching statement, Looping statement	<b>( 15 )</b>
<b>Unit – II</b>	<b>Classes, Objects and Methods :</b> Introduction, Defining Class : Fields Declaration, Methods Declaration, Creating Objects, Visibility Control, Use of 'this' Keyword, Method Parameters, Method Overloading, Static Members, Final Method, Inheritance and It's Types, Method Overriding, Final Variable, Method and Final Class,  <b>Interface, Package and Exception Handling :</b> Defining and implementing interface, Inner Classes, Package: Create Package, Accessing Package, Exception, Types of Error, Multiple catch statement, Creating User defined Exception, Finally clause	<b>( 15 )</b>
<b>Unit – III</b>	<b>String and Stream :</b> String Classes, String Buffer Class, Stream Classes: Types of Streams, Byte Stream Classes, Character Stream Classes <b>Applets :</b> Introduction to Applet , Types of Applet, Applet vs Application , Applet class, advantages of Applet , Applet Lifecycle, My First Applet, Applet tag, Passing Parameters to Applet .  <b>Graphics:</b> Basic Shapes: drawLine, drawArc, fillArc, drawPolygon, fillPolygon, Color & Color Methods, Fonts.	<b>( 15 )</b>
	<b>Practical List:</b> 1) Program to demonstrate Constant Variable. 2) Program to demonstrate scope of Variable 3) Program to demonstrate branching statement 4) Program to demonstrate Looping statement 5) Program to demonstrate simple class 6) Program to demonstrate method parameter 7) Program to demonstrate method overloading 8) Program to demonstrate constructor 9) Program to demonstrate static member 10) Program to demonstrate Method overriding 11) Program to demonstrate Final variable, Method and Final Class. 12) Program to demonstrate Finilize method() 13) Program to demonstrate Array and It's types. 14) Program to demonstrate String class and it's method. 15) Program to demonstrate String Buffer and it's method.	<b>( 15 )</b>

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	16) Program to demonstrate inheritance and its Types 17) Program to demonstrate Abstract method and Abstract Class, 18) Program to demonstrate Multiple catch statement 19) Program to demonstrate finally clause 20) Program to demonstrate package 21) Program to demonstrate interface 22) Program to demonstrate Applet life cycle 23) Program to demonstrate param tag 24) Program to demonstrate Graphics class	
	<b>Practical's U/A : 50 Marks</b>  1. One Test : 10 Marks 2. Oral : 20 Marks 3. Writing of Algorithms in Journal / File : 20 Marks	
	<b>Reference Books :</b>  1. Complete Reference Herbert Schildt Tata McGraw- Hill Publishing company Ltd. 2. Java 2 programming black books Steven Horlzner DreamTech Press 3. Core Java Volume-I Fundamentals Eighth Edition Cay S. Horstmann, Gary Cornell, Prentice Hall Sun Microsystems Press 4. Programming with Java E Balagurusamy The McGraw Hill Education Pvt. Ltd. New Delhi	

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**B.C.A. IV<sup>th</sup> Semester Syllabus (CBCS)  
Paper No. XXI – MIS & DSS**

**Theory – 80 Marks  
Sessional – 20 Marks**

		<b>Lectures</b>
<b>Unit - I</b>	<b>Concept, Definition, Characteristics, Objectives, Role and Impact of MIS, Management as a control system, MIS: A support to the management, Application of MIS, Organization Effectiveness, Decision making concept, Decision making process, Organizational decision making &amp; MIS and decision making.</b>	<b>(12)</b>
<b>Unit - II</b>	<b>Information: A quality product. IT enabled services, e business, wireless technologies etc. Information system in business, Computer based Information system, limitation and disadvantages of IS, Human as an Information processor, knowledge and knowledge management system, business intelligence.</b>	<b>(12)</b>
<b>Unit - III</b>	<b>System concept and control, types of system, general model of MIS, need of system Analysis, System Development Life cycle, development process of MIS, Strategic design of MIS, Business-process, Process mode of an organization. MIS and BPR.</b>	<b>(12)</b>
<b>Unit - IV</b>	<b>DSS: concept and Philosophy, objectives and characteristic of DSS, major functions of DSS, Components of DSS, DSS generator and tools, limitations of DSS, GDSS, components of GDSS, MIS and benefits of DSS and ONLINE DATA PROCESSING</b>	<b>(12)</b>
<b>Unit - V</b>	<b>Knowledge system, Expert system, application of ES, benefits and Limitations of ES, ERP, ERP models and modules, benefits of ERP, ERP implementation, SCM, CRM.</b>	<b>(12)</b>
	<b>Sessional Works : 20 Marks</b> • College can take decisions accordingly.	
	<b>Reference Books:</b> 1. Decision Support & Expert System, Efrain Turban 2. W.S.Jawadkar, Management Information System 3. Dr. Akther Anwar, Fundamentals to Decision Support System 4. Dr. A.K.Gupta, Management Information System, S.Chand 5. V. Murthy, Management Information System, Himalaya publishing house, millennium edition	

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**B.C.A. IV<sup>th</sup> Semester Syllabus (CBCS)**  
**Paper No. XXII – Business Law – II**


**Theory – 80 Marks**  
**Sessional – 20 Marks**

		<b>Lectures</b>
<b>Unit – I</b>	<b>Contract Act: - Special Contracts - Law of Indemnity, Guarantee Contracts, Law of Bailment &amp; Pledge, Agency Contracts.</b>	<b>( 12 )</b>
<b>Unit – II</b>	<b>Company Law 2013 : Introduction of Company Act, Meaning &amp; Definitions, Features of Co. Act, Types of Company, Share Capital &amp; its types, Incorporation-Formation of company, Memorandum &amp; Articles of Association.</b>	<b>( 12 )</b>
<b>Unit - III</b>	<b>SEBI Act – 1992 :- Introduction of the Act, Meaning &amp; Definitions, Basic Characteristics of the Act, Obligation of SEBI, Issue of Capital, Discloser, Listing &amp; its role in Stock Market.</b>	<b>( 12 )</b>
<b>Unit - IV</b>	<b>Cyber &amp; LT. Act – 2000 (with Amendment) : Need &amp; Significance in modern era, Character &amp; User of Internet Technology, On Line Contracts, Hacking, Phishing, Privacy Terrorism, Privacy, Section 66A</b>	<b>( 12 )</b>
<b>Unit - V</b>	<b>Micro, Small &amp; Medium Enterprises Development Act 2006 (MSMED Act - 2006) : Introduction, Definitions, Features of the Act, Establishment of National Board of MSME, Power &amp; Duties of the Board, Classification of MSME, Promotional Measures of the Act.</b>	<b>( 12 )</b>
	<b>Sessional Works : 20 Marks</b> 1. One Test : 05 Marks 2. One Tutorial : 05 Marks 3. One Seminar : 05 Marks 4. Group Discussion : 05 Marks	
	<b>Reference Books:</b> 1. Mercantile of Law - N.D.Kapoor 2. Business Law - Dr.Nowlakra 3. Indian Contract Act - Dr. Avtarsingh 4. Mercantile & Industrial Law - Kuchal 5. Micro, Small & Medium Enterprises Development Act 2006(MSMED Act - 2006) – ( Law Policies & Incentive- Abha Jaiswal, IIBF, Taxman 6. HandBooks for MSME Enterprises – ICSI 7. MSME at a Glance – GOI Ministry of MSME	

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**B.C.A. IV<sup>th</sup> Semester Syllabus (CBCS)**  
**Paper No. XXIII – Entrepreneurship Development**

**Theory – 80 Marks**  
**Sessional – 20 Marks**

		<b>Lectures</b>
<b>Unit - I</b>	<b>Originating Theories of Entrepreneurship -</b> Economic Theory, Sociological Theory, Psychological Theory, Innovative theory of Entrepreneurship by Joseph Schumpeter. Theory of Achievement Motivation by MC Clelland - The Kakinada Experiment. Hoselitz sociological theory.	<b>( 10 )</b>
<b>Unit - II</b>	<b>Types of Entrepreneurship -</b> Recent Trends – Sociopreneur, edupreneur, ecopreneur and agropreneur. Women Entrepreneurs, Self Help Groups.	<b>( 08 )</b>
<b>Unit - III</b>	<b>Identification of Business Opportunities.</b> Environment scanning – meaning and benefits, Factors considered for environment scanning, Socio-cultural, economic, technical, demographic, legal and political, geographical and international factors, Sources and steps involved in identification of business opportunities.	<b>( 14 )</b>
<b>Unit - IV</b>	<b>Market Research-</b> Meaning, need and importance of market research. Techniques in Marketing Research - Field Survey Technique, Test Marketing, Delphi Technique, Desk Research, Observation Method and Experiment Method	<b>( 14 )</b>
<b>Unit - V</b>	<b>Innovation in Entrepreneurship –</b> Purposeful innovation – concept, need, process, principles of purposeful innovation, Incubation centres – Meaning, Services and role of incubation centres.	<b>( 14 )</b>
	<b>SESSIONAL WORK: 20 Marks</b> 1) One test 05 marks 2) One tutorial 05 marks 3) Seminar and GD 10 Marks	
	<b>Reference Books :</b> 1. Desai Vasant, Dynamics of Entrepreneurship development. 2. Drucker, Peter , Innovation and Entrepreneurship – Practice and principals. 3. Paul, Jose, Kumar Ajith. - Entrepreneurship Development and management – Himalaya Publication House. 4. Khanka, S.S. Entrepreneurship Development – Sultan Chand Publication. 5. Gupta, C.B. Shrinivasan - Entrepreneurial Development, Sultan Chand Publication.	

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**B.C.A. IV<sup>th</sup> Semester Syllabus (CBCS)**  
**Paper No. XXIV – PC Maintenance**

**Theory – 50 Marks**  
**Practical's U/A – 50 Marks**

		<b>Lectures</b>
<b>Unit - I</b>	<b>P.C. Architecture :</b> Computer Definition, Characteristics, of computers, Basic Application of Computer, Generations of Computers, Components of Computer System, Central Processing Units(CPU), Input / Output Devices, Computer Memory, Primary and Secondary Memory, Magnetic and Optical Storage Devices, Concept of Hardware and Software, Types of Software.	<b>( 15 )</b>
<b>Unit - II</b>	<b>P.C. Assembly :</b> Opening the System, Closing the System, Tips for working inside a PC Mounting Motherboard in Cabinet, Installation of Card, Device and Then Connecting Cables, Role of CMOS Setup Basic CMOS Optimization, Hidden CMOS settings.	<b>( 15 )</b>
<b>Unit - III</b>	<b>Motherboard and Processor :</b> Study of different types of Motherboards, Motherboard Configuration, Identifying Internal and External Connectors, Types of data cables, Types of Processor – Intel Pentium IV, Dual Core, Core 2 Duo, Quad Processor, Graphics Card Types of Graphics cards.	<b>( 15 )</b>
	<b>Practical's U/A : 50 Marks</b> 1.BIOS Configuration : Study of BIOS Set-up Advance set-up , Boot configuration, Boot Menu. 2.Installation of OS – Windows XP / 7 / 10 3.Hard Disk Formatting of Hard Disk, Partitioning of Hard Disk in different logical drives, Disk Defragmentation, Disk clean up, Scan disk etc 4.Installation of Device Drivers – Printers, Scanners etc 5.Application Software Installation – MS Office, PDF Reader, Antivirus etc Subject Teacher can add more Practical's based on above syllabus.	<b>( 15 )</b>
	<b>References Books :</b> 1.Computer Fundamentals ( Sixth Edition ) : P. K. Sinha 2.Troubleshooting and Maintaining Your PC All-in-One : Dan Gookin. 3.Computer System Architecture : M. Morris 4.Computer Fundamentals : Amita Goel 5.Fundamental of Computers : E. Balaguruswamy 6.PC Repair and Maintenance a practical guide : J.Rosenthal, K.Irwin 7.3 Easy PC Maintenance & Repair : Philip Laplante, McGraw Hill Pub.	

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**B.C.A. IV<sup>th</sup> Semester Syllabus (CBCS)  
Paper No. XXIV – Advance Networking**




**Theory – 50 Marks  
Practical's U/A – 50 Marks**

		<b>Lectures</b>
<b>Unit - I</b>	<b>Basics of Computer Networks</b> - Computer Network, Definition, Goals, Applications, Structure, Components, Topology – Bus, Star, Ring, Mesh, Types of Networks , LAN, MAN, WAN, Internet, Broadcast & Point-To-Point Networks communication Types – Serial, Parallel, Modes of Communication : Simplex , Half Duplex , Full Duplex , Server Based LANs & Peer-to-Peer LANs ,Comparison of both, Protocols and Standards	<b>( 15 )</b>
<b>Unit – II</b>	<b>Network Models</b> - Design issues of the layer, Protocol Hierarchy , ISO-OSI Reference Model - Layers in the OSI Model , Functions of each layer, Terminology, SAP , Connection Oriented services, connectionless services , Peer Entities Internet Model (TCP/IP) , Comparison of ISO-OSI & TCP/IP Model , Addressing - Physical Addresses , Logical Addresses ,Port Addresses	<b>( 15 )</b>
<b>Unit - III</b>	<b>Transmission Media</b> - Guided Media(Wired), Coaxial Cable, Twisted Pair , Fiber Optics Cable , Unguided Media (Wireless) <b>Network Connectivity Devices</b> - Categories of Connectivity Devices, Passive & Active Hubs, Repeaters, Bridges, Transparent Bridges(Loop Problem, Spanning Tree) , Source Routing Bridges, Switches , Router, Gateways <b>Network Security Devices</b> –Firewalls, Packet-Filter firewall, Proxy firewall	<b>( 15 )</b>
	<b>University Practical Exam. : 50 Marks</b> Any suitable practical based on above syllabus.	<b>15</b>
	<b>Reference Books :</b> 1.Computer Networks - Andrew Tanenbaum (III Edition) 2.Internetworking Technology Handbook , CISCO System 3.Data Communications & Networking - Behrouz Ferouzan (III Edition) 4.Complete Guide to Networking - Peter Norton	

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MARATHWADA UNIVERSITY,  
AURANGABAD.**



Curriculum of

BACHELOR OF COMPUTER APPLICATION

(BCA)

IIIIRD YEAR

FIFTH SEMESTER

under Choice Based Credit & Grading System

*[ Effective from the Academic Year 2020-21 & onwards ]*

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DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY, AURANGABAD.


FACULTY OF COMMERCE & MANAGEMENT


Syllabus - Bachelor of Computer Application (BCA)


Choice Based Credit System (CBCS)



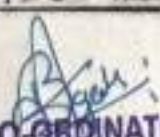
Semester & Credits	Core Course [04]	Ability Enhancement Compulsory Courses [AEC] [01]	Discipline Specific Elective [DSE] [01]
V Credit 24	1. Management Accounting 2. SQL 2017 3. VB 4. Organizational Behavior	1. Software Engineering	Elective Paper [Any One] 1. Banking & Insurance OR 2. Retail Management
Total Credits 24	No. of Credits : 16	No. of Credits : 04	No. of Credits : 04


  
07/07/2020  
Prof. W. K. Sawade  
(Dean & Bos Chairman)

  
07/07/2020  
Prof. Syed Azharuddin  
(Chairman BOS)

  
Prof. Satyaprem Ghunre  
(Chairman BOS)

  
Dr. Kishor Salve  
(Chairman BOS)

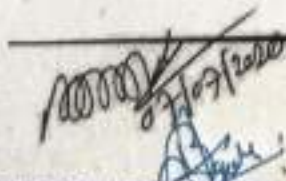
  
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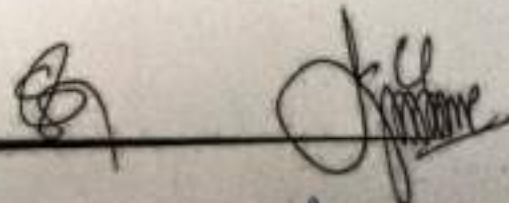
  
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Structure of B. C. A. Fifth Semester  
Choice Based Credit Grading System (CBCS) 2020 - 21



Paper Number	Subject/ Title of the Paper	Course	Weekly		Credits		IA	UA	Total Marks	Duration of Theory Exam
			Th	Pr	Th	Pr				
XXV	Management Accounting	Core Course	4	-	4	-	20	80	100	3 Hrs
XXVI	SQL 2017	Core Course	4	-	4	-	20	80	100	3 Hrs
XXVII	VB	Core Course	4	-	4	-	20	80	100	3 Hrs
XXVIII	Organizational Behavior	Core Course	4	-	4	-	20	80	100	3 Hrs
XXIX	Software Engineering	Ability Enhancement Compulsory	4	-	4	-	20	80	100	3 Hrs
XXX	1.Banking & Insurance OR 2.Retail Management	Discipline Specific Elective [Any One]	4	-	4	-	20	80	100	3 Hrs
<b>Total</b>			<b>24</b>	<b>-</b>	<b>24</b>	<b>-</b>	<b>120</b>	<b>480</b>	<b>600</b>	<b>--</b>

  
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B.C.A. V<sup>th</sup> Semester Syllabus (CBCS)  
Paper No. XXV – Management Accounting



Theory – 80 Marks \*  
Sessional – 20 Marks

	No. of Lectures
Unit I Introduction to Management Accounting: Meaning, Definition, Features, Scope, Importance and Functions of Management Account. Differences between Management Accounting, Financial Accounting and Cost Accounting. Advantages and Limitations of Management Account. (Theory only)	10
Unit II Analysis and Interpretation of Financial Statements: Meaning, Definition, Objectives, Scope of Financial Statements. Financial Statement Analysis, Tools of Financial Statements Analysis - Comparative financial statement, Common size financial statement, Trend Analysis. (Theory only)	08
Unit III Ratio Analysis: Meaning, Advantages, Limitations, and Classification of ratios. Gross Profit Ratio, Net Profit Ratio, Return on Capital Employed Ratio, Inventory Turnover Ratio, Debtors & Credit Turnover Ratio, Current Ratio, Liquid Ratio, Proprietary Ratio. (Numeric only)	14
Unit IV Fund Flow Statement: Meaning, Uses, Limitations, Sources and uses of funds. Funds from operations, Statement showing changes in working capital, Funds Flow Statement (Only in statement form), Preparation of necessary ledger accounts. (Numeric only)	14
Unit V Cash Flow Statement Cash Flow Statement as per revised accounting standard -3 in Statement Form (Numeric only)	14
Practical: 20 Marks (to be conducted by the department in each college as per convenience) Sessional Work: 20 Marks (Based on Unit II, III and IV) 1. To Collect the Financial Statements of Companies published in News Papers (05 Companies). 2. Calculate Profitability and Financial Ratios (One case). 3. Prepare Statement of Changes in Working Capital and Funds Flow Statement (One Case) i. 10 Marks for above mentioned work. ii. 10 Marks for Group Discussion and Seminar	
Reference Books : 1. Dr. S.N. Maheshwari – Principles of Management Accounting, Sultan Chand & Sons, Delhi 2. Prof. A.P. Rao – Management Accounting – Everest Publishing House, New Delhi 3. Khan M.Y. & Jain P.K. - Management Accounting Tata McGraw-Hill Education 4. Dr. Jitendra Ahirrao - Management Accounting – Kailas Publications Aurangabad. 5. Dr. V.R. Nagori & Dr. Sanjay Agrawal - Management Accounting – Chinmay Publications Aurangabad.	

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B.C.A. V<sup>th</sup> Semester Syllabus (CBCS)  
Paper No. XXVI – SQL 2017

Total marks - 100  
Theory - 80 Marks  
Sessional - 20 Marks



		No. of Lectures
Unit I	Introduction To DBMS: Database Management System (DBMS) and Data Models. Introduction to Basic Database, Advantages of DBMS, Exploring Relational DBMS, Understanding Client and Server, Introduction to TSQL (Transact-Structured Query Language), History and Features of TSQL, Types Of TSQL Commands	12
Unit II	Introduction to SQL Server: Advantages and Drawbacks of SQL Server, Comparison between SQL Server and Oracle, Installation steps of Server, Connecting to Server, Server Type, Server Name, Authentication Modes, SQL Server Authentication Mode, Windows Authentication Mode, Login and Password, SQL Server Management Studio and Tools in Management Studio, Object Explorer, Object Explorer Details, Query Editor	12
Unit III	Transaction Management: Transaction Concepts, Begin Transaction, Commit Transaction, Rollback Transaction, Save Transaction, Role of Log File in Transaction Management, Implicit Transaction, Schedules.	12
Unit IV	Concurrency Control : Introduction Concurrency Control, Need for Concurrency, Locking Protocols, Transaction Recovery, Save Points Isolation Levels, SQL Facilities for Concurrency and Recovery.	12
Unit V	File Structure and Indexing : Operations on files, File of Unordered and ordered records, overview of File organizations, Indexing structures for files (Primary Index, Secondary Index, Clustering Index), Multilevel Indexing using B and B+ trees	12
Practical's U/A : 20 Marks		
1. Test/ Tutorial : 10 Marks		
2. Oral / Writing of Algorithms in Journal / File : 10 Marks		
Reference Books :		
1. A Silberschatz, H Korth, S Sudarshan, "Database System and Concepts", fifth Edition McGraw-Hill.		
2. R. Elmasri, S.B. Navathe, Fundamentals of Database Systems 6th Edition, Pearson Education, 2010.		
3. Rob, Coronel, "Database Systems", Seventh Edition, Cengage Learning		
4. C.J.Date, A.Kannan, S.Swamynathan, —An Introduction to Database Systems, Eighth Edition, Pearson Education, 2006.		
5. Raghu Ramakrishnan, —Database Management Systems I, Fourth Edition, McGraw-Hill		
6. G.K.Gupta, Database Management Systems", Tata McGraw Hill		
7. Database Systems- A practical approach to Design, Implementation and Management by Thomas Connolly, Carolyn Begg, 3rd Edition, Pearson Education.		

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B.C.A. V<sup>th</sup> Semester Syllabus (CBCS)  
Paper No. XXVII - VB

Visual Basic

Total - 100 Marks

Theory - 80 Marks  
Sessional - 20 Marks



		No. of Lectures
Unit I	Introduction to Visual Basic : Introduction, Integrated Development Environment Overview, Introduction Graphical User Interface (GUI), Programming Language (Procedural, Object Oriented, Event Driven), How to use VB, edition, installation	10
Unit II	Introduction to Visual Basic Programming: Introduction, Visual Programming and Event-Driven Programming, A Simple Program: Printing a Line of Text on the Form, Variables, Variables Public, Private, Static, Constants, Data Types, Naming, rules/conventions, Constants, Named & intrinsic, Declaring variables, Scope variables, Val Function, Arithmetic Operations, Formatting Data. Branching and Looping Statement: If, Select Case, Iterations :While, For, Until	12
Unit III	Arrays and Procedures, Functions :Types of array, control array, Built in and user defined function OOPS in VB : Classes, creating a new Class, Creating a new object using a class, choosing when to create New Objects, The Initialize & Terminate events, Inheritance. <b>Exception handling:</b> Introduction, When Error Handling Should be Used, A Simple Error-Handling Example: Divide by Zero, Nested on Error Statements, Error Object, and Resume Statement. Event handling: Mouse handling	12
Unit IV	<b>Basic Graphical User Interface Concepts:</b> Introduction to forms and Controls: Introduction, Creating , adding, removing Forms in project, Hide, Show Method, Load, Unload Statement, Me Keyword, Referring to Objects on a Different Forms. Adding controls on form Working with Properties and Methods of each Controls (Text Box Control, MasicEdit Control, Combo Box Control, List Box Control, Scrollbars, Slider Control, Menus, Pop-Up Menus, Function MsgBox), Creating an application <b>MENU :</b> Creating a menu system, Creating and accessing pop-up menu, Modifying menus at runtime, adding menu items at run-time, data access methods, creating, reading and writing text files	14
Unit V	Data Control , Connectivity with SQL server , Operations of database through coding , ADO Data Control , Advantages of ADODC over DC , Studying the properties and Methods of ADODC , Connectivity with SQL server ,Report Generation , Developing ADO application through ADODC and coding , Report Generation	12
	Sessional Works : 20 Marks • College can take decision accordingly as per their convenience.	
	Reference Books: 1. Mastering Visual Basic 2. Visual Basic Black Book	

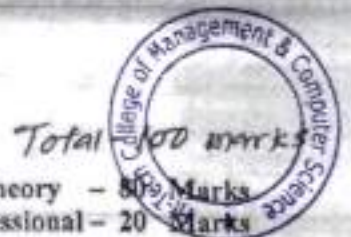
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B.C.A. V<sup>th</sup> Semester Syllabus (CBCS)  
Paper No. XXVIII – Organizational Behavior



Total 100 marks  
Theory - 80 Marks  
Sessional - 20 Marks

		No. of Lectures
Unit I	<b>Evolution of Management thought:</b> Classical School to Contingency School. Contribution of Management thinkers and proponents: Fredrick Taylor, Max Weber, Henri Fayol, Frank and Lillian Gilbreth, Henry Ganit, Elton Mayo and others. OB Studies and Experiments: Classical Conditioning Theory, Hawthorne Studies and others.	12
Unit II	<b>Individual Dynamics – I</b> Personality: Conceptualization, Discussions on Type vs. Trait Theory and Nature vs. Nurture Type Theory: Freud's Theory of Psychosocial Stages, Carl Jung's Theory of Personality , Theory X vs. Theory Y and others. Trait Theory: Myer-Brigg's Trait Indicator, Big-Five Personality Traits and others.	12
Unit III	<b>Individual Dynamics - II</b> Theories of Motivation: Maslow's Hierarchy of Needs Theory, Herzberg's Two-Factor Theory, McClelland Human Motivation Theory, Alderfer's ERG Theory, Vroom's Expectancy Theory, Adam's Equity Theory, Skinner's Reinforcement Theory, Locke's Goal Setting Theory, Deci and Ryan's Cognitive Evaluation Theory	12
Unit IV	<b>Group Dynamics</b> Communication: Concept, Process, Communication channels, Barriers and Implications for Managers, Group Development: Definition, Foundations of Group Behavior, Bruce Tuckman's Stages of Development, Group Properties (roles, norms, status, size and cohesiveness) Decision Making: Group vs. Individual Decision Making, Group decision making techniques, Stages and Process of Decision Making	14
Unit V	<b>Organizational System</b> Organizational Structures: Concept, Design Types, Chain of Command, Span of Control, Centralization vs. Decentralization. Stress Management: Concept of Work Stress, Emotional Intelligence, and Measures for managing stress. Managing Stress related to Business & Employment in Post COVID-19 Era.	10
<b>Sessional Works : 20 Marks</b> 1. Group Discussion : 10 Marks 2. Test / Tutorial : 10 Marks		
<b>Reference Books:</b> 1. Robbins, S., Judge, T., & Vohra, N. (2016). Organizational Behavior. (16e, Ed.) Mullins, L. J. (2010). Management and Organizational Behaviour. (9th, Ed.) 2. Bratton, J. (2016). Introduction to Work and Organizational Behaviour. (3rd, Ed.) 3. Butler, M., & Rose, E. (Eds.). (n.d.). Introduction to Organisational Behaviour. 4. Aswathappa, K. (2017). Organisational Behaviour. (12th, Ed.) 5. Rollinson, D. (2008). Organisational Behaviour and Analysis: An Integrated Approach. (4th, Ed.)		

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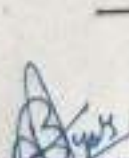
B.C.A. V<sup>th</sup> Semester Syllabus (CBCS)  
Paper No. XXIX – Software Engineering


Total - 100 Marks  
Theory - 80 Marks  
Sessional - 20 Marks



		No. of Lectures
Unit I	Overview of systems Analysis and design System concepts : Types of systems: Information System, System Development Life cycle, Role & Skills of system Analyst, Models: 1) Waterfall 2) Prototyping 3) Spiral ( including WIN-WIN Spiral) 4) RAD 5) Group Based Approach: JAD 6) Object Oriented methodology	12
Unit II	A) Current trends in Software Engineering : 1 Software Engineering for projects & products. 2 Introduction to Web Engineering and Agile process B) Information requirement Analysis: 1) Decision Analysis Tools: Decision Tree, Decision Table, Structured English 2) Functional Decomposition Diagram 3) Process modeling with physical and logical Data Flow Diagrams 4) Data Dictionary Case Studies on Decision analysis tools , FDDs, DFDs should be covered	14
Unit III	Software Analysis : Requirements Engineering; Feasibility Study : economical, operational, social, technical; Requirements Elicitation; Requirements Analysis; Requirements Validation and Management. Size Estimation; Cost Estimation Models; COCOMO, COCOMO II; Software Risk Management. Activities in Requirements Determination : a) Requirements Anticipation b) Requirements Investigation c) Requirements Specifications	14
Unit IV	Software requirement Specification (SRS) : 1] Structure and contents of the requirements specification analysis modeling, types of requirements - functional and non-functional , Quality criteria, requirements definition ,SRS format, Fundamental problems in defining requirements. 2] Structure and standards followed for SRS. 3] characteristics of good SRS - Unambiguous, complete, verifiable, consistent, modifiable, traceable, usable during maintenance	12
Unit V	Maintenance : Types of Maintenance, Maintenance Cost, Reverse Engineering, Introduction to legacy systems, Documentation : Types, Role of documentation maintenance	10
	SESSIONAL WORK: 20 Marks College can take decision as per their convenience.	
	Reference Books : 1. System Analysis and Design by Jalote 2. Software Engineering by Sommerville 3. Software Engineering - W S Jawadekar 4. System Analysis & Design methods – Whiten, Bentley 5. System Analysis & Design – Elias Awad 6. Object Oriented Modelling & Design – James Rumbaugh 7. Analysis & Design of Information System – James Senn 8. Analysis & Design of Information System – V. Rajaraman 9. Software Engineering Concepts-Richard Fairley	

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B.C.A. V<sup>th</sup> Semester Syllabus (CBCS)  
Paper No. XXX – Banking & Insurance (Elective)

Total - 100 Marks  
Theory - 80 Marks  
Sessional - 20 Marks



		No. of Lectures
Unit I	<b>Banking in India</b> : Meaning and definition of Bank, Banking and Banking Company. Commercial Banks: Introduction, Structure of Commercial Banks in India, functions, credit creation by commercial Banks, Principle of liquidity and profitability. <b>Co-operative Banks</b> : Introduction, Structure, organization and management, progress and problems. <b>Regional Rural Banks</b> : Introduction, objectives, organization and management, progress and problems.	10
Unit II	<b>Reserve Bank of India</b> The Reserve Bank of India: Introduction, organization and management General functions, regulation of money and credit supply, credit control measures	08
Unit III	<b>Banker and Customer</b> The relationship between Banker and Customer, general relationship — special relationship, statutory obligation to honor Cheque - Bankers lien. Duty to maintain secrecy of customers' account, right to claim incidental charges, right to charge compound interest, Banking Ombudsman.	10
Unit IV	<b>Account of Customers</b> : i) General precautions for opening accounts, KYC (Know Your Customer), Types of deposit accounts, fixed deposit receipt, nomination, TDS. . ii) Special types of customers, minor, married women, Lunatic; Partnership, Joint stock companies unincorporated bodies. Executor and Administrators. Trusts Accounts, Joint Accounts. iii) Principles of sound lending, secured and unsecured advances, Forms of advances, iv) Modes of charging security: Lien, Pledge, Mortgage, Assignment, Hypothecation,	10
Unit V	<b>Electronic Banking (E-Banking)</b> : Introduction, Traditional banking v/s E-Banking, electronic delivery channels (ATMs, Smart cards, mobile banking, internet banking,) t-banking transaction, Truncated cheques and electronic cheques, MCgh product, Advantages of Banking, constraints in E-Banking, security measures, RTGS & NEFT. E-Banking During & Post COVID-19 Pandemic.	10
Unit VI	<b>Insurance</b> : Concept and importance of Insurance, Principles of Insurance, Growth & Development of Indian Insurance Industry – Regulations of Insurance Business and The Emerging Scenario – Introduction to Life & General Insurance – Life Insurance: Features of Life Insurance – Essentials of Life Insurance Contract – Kinds of Insurance Policies - Premium determination – Life Policy Conditions, Risk and Insurance.	12
	<b>Sessional Marks : 20 Marks</b> 1. Test / Tutorial : 10 Marks 2. Preparing Instruments of Bank/ Insurance as per convenience. : 10 Marks	
	<b>References Books :</b> 1 Cordon & Natarajan, Banking Law and Practice 2008, Himalaya Publishing Mumbai. 2 Insurance Laws and Practices. Excel Books Private Limited, A-45, New Delhi. 3 KC. Shukher: Banking Theory & practice, Vahi Educational Books, Sahibabad (U.P). 4 Read, E.W., Commercial Bank Management, Harper and Row Publisher New York.	

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B.C.A. V<sup>th</sup> Semester Syllabus (CBCS)  
Paper No. XXX – Retail Management (Elective)

Theory - 80 Marks  
Sessional - 20 Marks



Unit	Description	No. of Lectures
Unit V	<b>Introduction to Retailing:</b> Meaning, Definition, Scope of Retailing, Role and Functions of retailers, Advantages of Retailing, Organized and Unorganized Retailing, Indian Retail Scenario Vs. Global Retail Scenario, Role of Retail in Nation's Economy	12
Unit V	<b>Theories and Formats of Retailing:</b> 1. Environmental Theory 2. Cyclical Theory 3. Conflictual Theory. Formats of Retailing Store based, Non store and Service retailing	12
Unit V	<b>Retailing Planning and Development:</b> Understanding the Retail Customer Marketing Research for Retailing, Strategic Retail Planning Process, - Retail Strategies: Growth Strategies Positioning a retail outlet; developing a retail brand strategy, expansion strategy, pricing strategy, Retail Location and Site Selection.	12
Unit V	<b>Merchandise Management:</b> Meaning of Merchandising, Factors influencing Merchandising, Basics & Types of Retail Merchandising, Concept & Process of merchandise Planning, Methods of Merchandise Procurement, Retail Pricing and Evaluating.	12
Unit V	<b>Retail HRM &amp; New Trends in Retailing:</b> Identifying Manpower requirements, Recruitment, Selection & Training, Emerging Trends in Retailing in India, Technology in Retailing, Non store retailing (e-retailing) - The Impact of Information Technology in retailing, Legal aspects in retailing, Social issues in retailing, Ethical issues in retailing, Innovative Retail During & Post COVID-19 Pandemic.	12
<b>Sessional : 20 Marks</b> 1. Test / Tutorial : 10 Marks 2. Preparing Market Research Plan of Product : 10 Marks		
<b>Reference Books :</b> 1. Retailing Management : Michael Levy and Barton Weitz, TMGH, 5th Edition 2. Retail Management: Swapna Pradhan, TTMGH 3. Retail Management – Chetan Bajaj; Rajnish Tull; Nidhi Varma - Oxford ks 4. Fundamentals of Retailing: K V S Madaan, McGraw Hill 5. Retail Marketing Management: David Gilbert, Pearson Publication 6. Retail Management : Arif Sheikh, Himalaya Publishing		

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



**Curriculum of**  
**BACHELOR OF COMPUTER APPLICATION**  
**(BCA)**  
**IIIIRD YEAR**  
**SIX SEMESTER**  
**under Choice Based Credit & Grading System**

*[ Effective from the Academic Year 2020-21 & onwards ]*

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DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY, AURANGABAD

FACULTY OF COMMERCE & MANAGEMENT.

Syllabus - Bachelor of Computer Application (BCA)

Choice Based Credit System (CBCS)



Semester & Credits	Core Course [04]	Ability Enhancement Compulsory Courses [AEC] [01]	Discipline Specific Elective [DSE] [01]
VI Credit 24	1. Element of Commercial Portal (HTML 5) 2. Android 9 3. Business Law - III 4. Project	1. Software Testing	Elective Paper [Any One] 1. Services Marketing OR 2. Export Management
Total Credits 24	No. of Credits : 16	No. of Credits : 04	No. of Credits : 04

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Structure of B. C. A. Sixth Semester  
Choice Based Credit Grading System (CBCS) 2019 - 2020



Paper Number	Subject/ Title of the Paper	Course	Weekly		Credits		IA	UA	Total Marks	Duration of Theory Exam
			Th	Pr	Th	Pr				
XXXI	Elements of Commercial Portals (HTML 5)	Core Course	4	-	4	-	20	80	100	3 Hrs
XXXII	Android 9	Core Course	4	-	4	-	20	80	100	3 Hrs
XXXIII	Business Law III	Core Course	4	-	4	-	20	80	100	3 Hrs
XXXIV	Project	Core Course	4	-	4	-	20	80	100	3 Hrs
XXXV	Software Testing	Ability Enhancement Compulsory	4	-	4	-	20	80	100	3 Hrs
XXXVI	1.Services Marketing OR 2.Export Management	Discipline Specific Elective [Any One]	4	-	4	-	20	80	100	3 Hrs
<b>Total</b>			<b>24</b>	<b>-</b>	<b>24</b>	<b>-</b>	<b>120</b>	<b>480</b>	<b>600</b>	<b>--</b>

B.C.A. VI<sup>th</sup> Semester Syllabus (CBCS)  
Paper No. XXXI – Elements of Commercial Portals (HTML 5)

2

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Theory - 80 Marks  
Sessional - 20 Marks

**Objectives:**

- Student will be able to know the elements of commercial portals with XML, JQuery and other details.

	No. of Lectures
<b>Unit HTML 5</b>	<b>10</b>
<b>I</b> Introduction , form elements - Date, Date Time, Email, Number, Range, Tel, Color, URL, Date Time Local, Month , Week, Time, Placeholder Attribute, Autofocus Attribute, Required Attributes , HTML Audio , Video	
<b>Unit XML</b>	<b>08</b>
<b>II</b> 2.1 Concept of XML, features of XML 2.2 Writing XML elements attributes etc. 2.3 XML with CSS, programs on it. 2.4 XML with DSO, programs on it. 2.5 XML Namespace, XML DTD, programs on it 2.6 XML schemas, writing simple sheet using XSLT 2.7 SAX Parser, DOM Parser 2.8 Introduction to SOAP, Examples of XML	
<b>Unit JQuery - I</b>	<b>14</b>
<b>III</b> 3.1 Introduction to jQuery, Syntax Overview 3.2 Anatomy of a jQuery Script, Creating first jQuery script 3.3 Traversing the DOM, Selecting Elements with jQuery, 3.4 Refining & Filtering Selections, Selecting Form Elements 3.5 Working with Selections - Chaining, Getters & Setters 3.6 CSS, Styling, & Dimensions 3.7 Manipulating Elements - Getting and Setting Information about Elements, Moving, Copying, and Removing Elements, Creating New Elements	
<b>Unit JQuery - II</b>	<b>14</b>
<b>IV</b> 4.1 Manipulating Attributes, Utility Methods 4.2 Events - Connecting Event to Elements, Namespacing Events, Event handling, Triggering Event handlers, Event Delegation 4.3 JQuery Effects -hide/show, fade, slide, animate, callback, stop 4.4 Interactions - Draggable, Droppable, Resizable, Selectable, Sortable 4.5 Widgets - Accordion, DatePicker, Menu, Tabs 4.6 Plugins - Using readymade plugins, Create a basic plugin, Writing Plugins	
<b>Unit AJAX</b>	<b>14</b>
<b>V</b> 5.1 AJAX Overview 5.2 JQuery's AJAX related methods, 5.3 Ajax and Forms 5.4 Ajax Events	
<b>Practical: 20 Marks (to be conducted by the department in each college as per convenience)</b>	
<b>Sessional Work: 20 Marks (Based on Unit II, III and IV e.g. HTML 5 , XML , JQuery and AJAX)</b>	

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**Text Books :**

1. HTML, DHTML, JavaScript, Perl & CGI Ivan Bayross
2. HTML & CSS : The Complete reference, Fifth Edition By Thomas Powell

**Reference Books :**

1. Html, Xhtml, And Css Bible (English) 5th Edition (paperback) by Schafer, Steven
2. HEAD FIRST HTML AND CSS, 2/ED (UPDATED FOR HTML) by ROBSON
3. Beginning HTML and CSS (English) (Paperback) by Rob Larsen
4. Learn to Code HTML and CSS (English) (Paperback) by Howe
5. Head First HTML5 Programming by Elisabeth Freeman and Eric Freeman
6. Introducing HTML5 - Bruce Lawson, Remy Sharp
7. AngularJS - Brad Green, Shyam Seshadri
8. Learning jQuery - Jonathan Chaffer, Karl Swedberg
9. Professional Ajax, 2nd Edition Wrox Press
10. Internet Technology at work Hofstetter fred, TMH.
11. Beginning XML Wrox Press
12. XML how to program Deitel & Deitel, Pearson Pub.
13. Programming the World Wide Web Robert W. Sebesta, Pearson, 4th Ed.

**Web references:**

1. [www.w3school.com](http://www.w3school.com)
2. [www.tutorialpoint.com](http://www.tutorialpoint.com)

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**B.C.A. VI<sup>th</sup> Semester Syllabus (CBCS)  
Paper No. XXXII – Android 9**


**Theory – 80 Marks  
Sessional – 20 Marks**

**Objectives:**

1. To facilitate students to understand Android SDK & Basics of Android Application Development.

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2. To impart working knowledge of Android Studio development tool.

Unit I	<b>Environment Setup:</b> Developing for android installing the android SDK, Installing the updates to the SDK, Android Development Tools (ADT) Plugin, developing with Eclipse. Create Android Application, Create Android Virtual Device, and Architecture: Linux kernel, Libraries, Android Runtime, and Application Framework.	12
Unit II	<b>Application Components:</b> Application Components Activities, Services, Broadcast Receivers, content Providers, Anatomy of Android Application, The Main Activity File, The Manifest File, The Strings File, The R File, The Layout File, Running the Application. <b>Types Of Android Application:</b> Foreground Application, Background Application, Intermittent Application.	12
Unit III	<b>Resources Organizing &amp; Accessing:</b> Alternative Resources, Accessing Resources. The Dalvik Debug Monitor Service, The Android Debug Bridge. <b>UI Layouts:</b> Android Layout Types, Relative Layout Attributes, Grid View Attributes, Sub-Activity, Layout Attributes, View Identification, UI Controls, Android UI Controls, TextView Attributes, AutoComplete Text View Attributes, Button Attributes, ImageButton Attributes, CheckBox Attributes, ToggleButton Attributes, RadioButton Attributes, RadioGroup Attributes	12
Unit IV	<b>Intents and Filters:</b> Intent Objects, Action, Android Intent Standard, Actions, Data, Category, Extras, Flags, Component Name, Types of Intents: Explicit Intents, Implicit Intents. Externalizing Resources, Android Application Life Cycle. <b>Fragments:</b> Creating New Fragments, The Fragment Life-Cycle, Fragment States, Adding Fragments to Activities.	12
Unit V	<b>Event Handling:</b> Event Listeners & Event Handlers, Event Listeners Registration, Styles and Themes, Defining Styles, Using Styles, Style Inheritance, Android Themes, Default Styles & Themes, Custom Components, Creating a Simple Custom Components.	12

#### Practical's U/A : 20 Marks

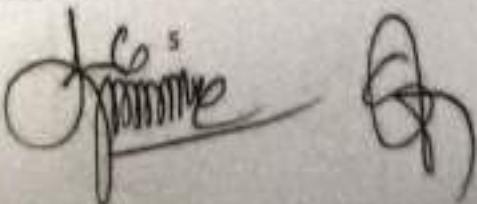
Sessional Work	: 20 Marks
Test /Practical	: 10 Marks
Tutorial/ Programming File	: 10 Marks

#### Reference Books :

1. Android in Practice - Charlie Collins, Michale Galpin, Matthias Kaeppler – Manning Publications 2012
2. Steele J.: The Android Developer's Cookbook: Building Applications with the Android SDK., Addison-Wesley Professional, 2010
3. Conder S., Darcey L.: Android Wireless Application Development, 3rd edition, Addison-Wesley Professional 2012
4. Professional Android 4 Application Development: Retomeier, Wrox Publication.

#### Web Reference:

  
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**B.C.A. VI<sup>th</sup> Semester Syllabus (CBCS)**  
**Paper No. XXXIII – Business Law III**

**Theory – 80 Marks**  
**Sessional – 20 Marks**

**Objectives:** To acquaint students about the concept of Laws in India, with latest Amendments.

		No. of Lectures
Unit 1	<b>Information Technology Act 2000</b> <ul style="list-style-type: none"><li>• Cyber Crime : Meaning and Nature</li><li>• Terms used in Cybercrime : Hacking, Phishing, Preachers, Cyber Space, IP Spoofing, Leapfrog Attack ; Meaning and its effects on Cyber users</li><li>• Teenage Web Vandals, Cyber Fraud, Virus on the Internet, Defamation, Harassment and E-mail Abuse, Cyber Pornography, Other IT Act Offences</li><li>• Monetary Penalties, Adjudication and Appeals under IT Act 2000</li><li>• Jurisdiction and Criminal Justice in India, Strategies to handle cybercrime and trends</li></ul>	12

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<b>Unit II IT Contracts and Standards</b>	<ul style="list-style-type: none"><li>Contracts in the InfoTech World, Contract Formation on Internet, Terms and Conditions of Contracts</li><li>NIST : National Institute of Standards and Technology ; Objectives and working</li><li>Copyright - Meaning, Ownership and Assignment, License of Copyright, Copyright Protection of Content on the Internet</li></ul>	12
<b>Unit III Security Tools and Technologies and Services</b>	<ul style="list-style-type: none"><li>Firewall, Denial of Services (DoS), Digital Signature, Digital Signature Certificate, Packet sniffer, SSL, HTTPS, Pen Register</li><li>CERT : Computer Emergency Response Team : Introduction and Objectives</li></ul>	12
<b>Unit IV Cyber Security and Protection to Cyber Users</b>	<ul style="list-style-type: none"><li>National Cyber Security Policy 2013 – Cyber security : meaning; NCSP 2013 - meaning, Aim and Objectives, Reasons of NCSP 2013, Strategies NCSP 2013</li><li>NSA : National Security Agency – case study</li></ul>	12
<b>Unit V Consumer Protection Act 1986 (with Amendments 2019)</b>	<ul style="list-style-type: none"><li>Essential terms in Consumer Protection Act, Consumer Complaint, Defects in Goods and Services, Restrictive and Unfair Trade Practices, Instance of Unfair Trade Practices, Reliefs under CPA, Consumer Forum, Jurisdiction and Implications in India. E-Commerce Transactions, E-Filing of Complaints, Product Liability and Penal Consequences,</li></ul>	12
<b>Sessional Works : 20 Marks</b>		
Tests	: 10 Marks	Tutorials : 10 Marks

**Reference Books:**

1. Dr. Avtar Singh : Company Law; Eastern Book Company, 34, Lalbagh, Lucknow.
2. C.R. Datta : Datta on the Company Law; Lexis Nexis, Butterworths Wadhwa, Nagpur
3. A. Ramaia : Guide to the Companies Act; Lexis Nexis, Butterworths Wadhwa, Nagpur
4. Corporate Law- Bharat Law House Pvt Ltd. New Delhi.
5. Desai. T.R. Indian Contract Act, S.C. Sarkar and sons Pvt.Ltd

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**B.C.A. VI<sup>th</sup> Semester Syllabus (CBCS)  
Paper No. XXXIV – Project**

**Theory – 80 Marks  
Project Report – 20 Marks**

**Objectives:**

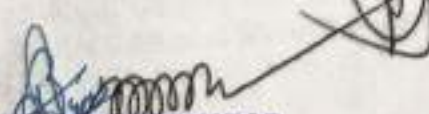
- As per the syllabi of BCA, each student has to go for Research Project selecting a topic from his/her specialization area or Area of Interest.


**Types Of Project:**

(20 Lectures)

The Project may be taken on any one of the following areas:

1. The project should be done in core specialization area of B.B.A course only.
2. Comprehensive case study (covering single organization/multifunctional area problem, formulation analysis and recommendations)
3. Inter-organizational study aimed at inter-organizational comparison/ validation of theory/survey of management services.
4. Evolution of any new conceptual / theoretical framework.
5. Field study (empirical study).

  
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6. The project can be based on primary or secondary data or both as well.

**Contents of Project Synopsis:**

The synopsis must be submitted containing the following contents:

- i) Title of the project.
- ii) Review of literature and Problem Statement.
- iii) Objectives of the proposed study.
- iv) Research Methodology (Sources of data, Sampling, Tools of analysis etc.)
- v) Scope/Relevance of Proposed Study.
- vi) Proposed Questionnaire (if any).
- vii) References.

**Main Project:**


**(20 Lectures)**


**Contents of Project Report:**

- 1) Introduction and Rationale of the topic chosen
- 2) Objectives of the study
- 3) Literature Review and problem formulation.
- 4) Research Methodology.
- 5) Analysis/discussion and interpretation of Data.
- 6) Conclusions/findings and recommendations/Suggestions.
- 7) References/Bibliography.
- 8) Appendix.
  - a) Questionnaire, if any
  - b) Interview schedule, if any
  - c) List of the companies surveyed.
  - d) Raw data, if the candidate wants to submit
  - e) Graphs/Diagrams etc.
  - f) Any other document relevant to the study

**Project Report : Students are expected to prepare model Project Report 20 Marks**

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**B.C.A. VI<sup>th</sup> Semester Syllabus (CBCS)**  
**Paper No. XXXV – Software Testing**

<b>Subject Title</b>	Software Testing		
<b>Subject Ref. No.</b>		<b>No. of Credits</b>	4
		<b>No. of Periods / Week</b>	4
		<b>Assignments / Sessional</b>	
		<b>Semester Examination</b>	
<b>Course Objective</b>	After completing this course students will be able to: • Understand the different types of testing , testing life cycle ,test case writing etc.		
<b>Pre Requisite</b>	Students must have knowledge of Software development life cycle.		
<b>Course Outcome</b>	At the end of the course, students will be able to:		
	CO-1	Understand different testing types associated with software.	
	CO-2	Identify the importance of black box and white box testing	
	CO-3	Design Test case for software.	
	CO-4	Perform manual testing to uncover different classes of errors.	
<b>Unit - I</b>	<b>Introduction</b> Fundamentals of Testing 1.1 What is Testing? 1.1.1 Typical Objectives of Testing 1.1.2 Testing and Debugging Why is Testing Necessary? Testing's Contributions to Success 1.2.2 Quality Assurance and Testing 1.2.3 Errors, Defects, and Failures 1.2.4 Defects, Root Causes and Effects 1.3 Seven Testing Principles 1.4 Test Process 1.4.1 Test Process in Context 1.4.2 Test Activities and Tasks 1.4.3 Test Work Products 1.4.4 Traceability between the Test Basis and Test Work Products 1.5 The Psychology of Testing 1.5.1 Human Psychology and Testing 1.5.2 Tester's and Developer's Mind-set		
<b>Unit - II</b>	<b>Testing Throughout the Software Development Lifecycle</b> 2.1 Software Development Lifecycle Models 2.1.1 Software Development and Software Testing 2.1.2 Software Development Lifecycle Models in Context 2.2 Test Levels 2.2.1 Component Testing 2.2.2 Integration Testing		



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*DR. WAYKAZ. Y.A.*  
*BCA - 2<sup>nd</sup> Sem.*  
*(Syllabus)*


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	<p>2.2.3 System Testing  2.2.4 Acceptance Testing  2.3 Test Types  2.3.1 Functional Testing  2.3.2 Non-functional Testing  2.3.3 White-box Testing  2.3.4 Change-related Testing  2.3.5 Test Types and Test Levels  2.4 Maintenance Testing  2.4.1 Triggers for Maintenance  2.4.2 Impact Analysis for Maintenance</p>
Unit - III	<p>3 Static Testing  3.1 Static Testing Basics  3.1.1 Work Products that Can Be Examined by Static Testing  3.1.2 Benefits of Static Testing  3.1.3 Differences between Static and Dynamic Testing  3.2 Review Process  3.2.1 Work Product Review Process  3.2.2 Roles and responsibilities in a formal review  3.2.3 Review Types  3.2.4 Applying Review Techniques  3.2.5 Success Factors for Reviews</p>
Unit - IV	<p>4 Test Techniques  4.1 Categories of Test Techniques  4.1.1 Choosing Test Techniques  4.1.2 Categories of Test Techniques and Their Characteristics  4.2 Black-box Test Techniques  4.2.1 Equivalence Partitioning  4.2.2 Boundary Value Analysis  4.2.3 Decision Table Testing  4.2.4 State Transition Testing  4.2.5 Use Case Testing  4.3 White-box Test Techniques  4.3.1 Statement Testing and Coverage  4.3.2 Decision Testing and Coverage  4.3.3 The Value of Statement and Decision Testing</p>
Unit - V	<p><b>Experience-based Test Techniques</b>  4.4.1 Error Guessing  4.4.2 Exploratory Testing  4.4.3 Checklist-based Testing  <b>Test Case</b>  What is Test Case?,  How to write effect test case,  features of good test case,  Format for Manual Test Case Writing.  Case studies should be covered for Manual Test Case Writing.</p>




  
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<b>Text Books</b>	<p>A. Software Engineering by R. Pressmen – 6th Ed          B. Software Engineering by Sommerville          C. Introducing Software Testing by Louise Tamres          D. Effective Methods for software Testing by William Perry          E. Software Testing in Real World by Edward Kit          F. Software Testing Techniques by Boris Beizer</p> <p>G. "Software Testing", Srinivasan Desikan and Gopalaswamy Ramesh          - Pearson Education 2006</p>
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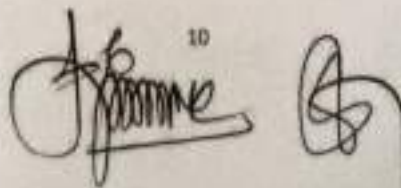



**B.C.A. VI<sup>th</sup> Semester Syllabus (CBCS)**  
**Paper No. XXXVI – Services Marketing (Elective)**

**Total : 100 Marks**  
**Theory : 80 Marks**  
**Sessional : 20 Marks**

		No. of Lectures
<b>Unit</b>	<b>Introduction :</b>	<b>12</b>
<b>I</b>	Service Marketing, Concept, Nature of Services, Characteristics of Services, Classification of Services, Need and Importance of Service Marketing, objectives and Problems of Service Marketing, Difference between Goods and Service, Difference between Software Products and Software Services	
<b>Unit</b>	<b>Marketing Communication :</b>	<b>12</b>
<b>II</b>	Meaning, Elements of marketing communication, Process of marketing communication – The Customer, The Business Environment and The Media, Role of Marketing Communication, Approaches in Marketing Communication - Corporate and Marketing oriented, Strategies in Marketing Communication – to match service promises with delivery, Key reasons for GAP4 involving communication	

  
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Unit III	<b>Promotion and Distribution of Services :</b> Promotion – Meaning and Concept, Objectives in Service marketing, Advertisements and Sales Promotion of Services, Distribution : Concept, Channels of Distribution, Obstacles in distribution, Recent Trends in distribution, Significance of Market Segmentation in Service Marketing	12
Unit IV	<b>Service Process and Performance:</b> Service process – Concept, Steps in Service Process, 7 P's of Service Marketing Mix, Performance in Service Marketing – Concept, Monitoring of Marketing Performance, Triangle Model for Performance, Special Service Marketing Practices	12
Unit V	<b>Techniques in Service Marketing:</b> B2B Strategies, GAP Model, PZB Model	

**Sessional Work : 20 Marks**  
Two Tests : 10 Marks  
Two Tutorials : 10 Marks

**References Books :**

1. Rampal & Gupta, "Service Marketing", Sultan Chand
2. Bhattacharjee, "Service Marketing", Excel Publisher
3. Zeithmal, "Service Marketing", Tata McGraw Hill, Third Edition
4. Govind Apte, "Service Marketing", Oxford University Press
5. Rama Mohana Raok, "Services Marketing", Pearson Education
6. Helen Woodruff, "Services Marketing",
7. Ardien Payne, "Essence of Services Marketing",
8. M.N. Mishra, "Sales Promotion & Advertising Management", Himalaya Publication
9. Dr. Niraj Kumar, "Marketing Communication", Himalaya Publishing House

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**B.C.A. VI<sup>th</sup> Semester Syllabus (CBCS)**  
**Paper No. XXXVI – Export Management (Elective)**

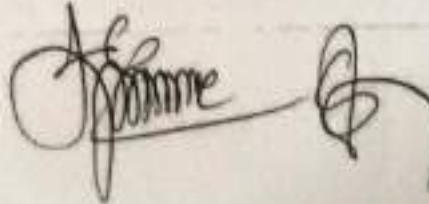
**Theory – 80 Marks**  
**Sessional – 20 Marks**

**Objective:**

- Students will be able to acquire the knowledge about Import Export Trade and Promotions in India

	No. of Lectures
Unit I <b>India's Foreign Trade:</b> • India's Foreign Trade & Development • Trends in India's foreign Trade • Composition of Exports • Major problems of Export Sector	12
Unit II <b>Export Promotion in India:</b>	12

  
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II	<ul style="list-style-type: none"><li>• Evolution of Export Promotion Policies in India</li><li>• Regulatory Mechanism in Export Promotion</li><li>• Export Promotion Measures in India</li><li>• Obstacles faced in effective Export Promotion Effort</li></ul>	12
Unit III	<b>Institutional Framework for Export Promotion in India:</b> <ul style="list-style-type: none"><li>• Govt. policy making &amp; consultations</li><li>• Export Promotion Councils &amp; Commodity Boards</li><li>• Technical &amp; Specialised Services Assistances</li><li>• Govt. participation in foreign trade &amp; organisational setup in the states.</li><li>• Commercial wing of Indian Embassies Abroad</li></ul>	12
Unit IV	<b>Export Finance in India:</b> <ul style="list-style-type: none"><li>• Types of export finance</li><li>• Features of pre-shipment and post-shipment finance</li><li>• Methods of payment</li><li>• Role of commercial banks and EXIM bank in export finance</li></ul>	12
Unit V	<b>Common Export Documents, EPZ, EOU &amp; SEZ</b> <ul style="list-style-type: none"><li><b>A. Commercial Documents</b><ul style="list-style-type: none"><li>- Commercial Invoices</li><li>- Bill of lading</li><li>- Airway Bill</li><li>- Combined Transport Documents</li><li>- Insurance Certificate</li></ul></li><li><b>B. Statutory Documents</b><ul style="list-style-type: none"><li>- Documents for registration of firm</li><li>- Documents for shipping</li></ul></li><li><b>C. Export Processing Zones &amp; Export Oriented Units</b><ul style="list-style-type: none"><li>- Meaning &amp; objectives</li><li>- Major sectors</li><li>- Need for special license</li><li>- Benefits/facilities provided</li></ul></li><li><b>D. Special Economic Zones</b><ul style="list-style-type: none"><li>- Meaning &amp; objectives</li><li>- Criteria for setting up of SEZ</li><li>- Advantages of SEZ Units in India</li></ul></li></ul>	12

Sessional Work : 20 Marks  
Two Tests : 10 Marks  
Two Tutorials : 10 Marks

**Reference Books :**

1. Export Import Policy, Publisher: Ministry of Commerce, Government of India, New

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Delhi.

2. Export Management – Francis Cheruulam – Himalaya Publishing House, Mumbai.
3. Export Management – P. K. Khurana – Galgotia Publishing Company, New Delhi.
4. Export Management – D. C. Kapoor – Vikas Publishing House Pvt. Ltd., New Delhi.
5. International Marketing and Export Management – Pearson Publication, New Delhi.

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