Swami Vivekanand University, Sagar (M.P.)

As per model syllabus of U.G.C. New Delhi, drafted by Central Board of Studies and Approved by Higher Education and the Governor of M.P.

Faculty of Computer Science
Syllabus & Prescribed Books

Subject-Bachelor of Computer Application

B.C.A. Semester
Examination 2016-17
I & II Semester

कुलसचिव
स्वामी विवेकानंद विश्वविद्यालय, सिरोंजा, सागर (म.प्र.)

Swami Vivekanand University, Sagar (M.P.)

COURSEWISE SCHEME
FIRST SEMESTER

1. Course Code : **BCA**

2. Course Name : **Bachelor Of Computer Application**

3. Total Subject : **6**

4. Compulsory Subject : **6**

5. Practical + viva : **Y**

6. Project : **N**

7. Maximum marks : **600**

8. Minimum Passing percentage: **33%**

SUBJECT CODE	SUBJECT NAME	Theory						Practical		Total	
		Paper		CCE		Total					
		MAX	MIN	Max	Min	Max	Min	Max	Min	Max	Min
FC 101	**FOUNDATION COURCE** **Moral Values & Language - I**	85	28	15	5	100	33	0	0	150	50
FC 102	**Development of Entrepreneurship - I**	35	12	15	5	50	17	0	0		
BCA 101	**Computer Fundament**	85	28	15	5	100	33	0	0	100	33
BCA 102	**PC Software**	85	28	15	5	100	33	0	0	100	33
BCA 103	**Digital Computer Electronics**	85	28	15	5	100	33	0	0	100	33
BCA 104	**Communication and Management**	85	28	15	5	100	33	0	0	100	33
BCA 105	**DOS (Practical +Viva)**	0	0	0	0	0	0	25	9	25	9
BCA 106	**MS Office (Practical +Viva)**	0	0	0	0	0	0	25	9	25	9

Grand Total = 600

Swami Vivekanand University, Sagar (M.P.)

Under Graduate Semester wise Syllabus
As recommended by Central Board of Studies and approved by the Governor of M.P.
Session 2016-2017

Class	: **BCA (Bachelor Of Computer Application) 1 Year**
Semester	: **I**
Subject	: **Foundation Course (आधार पाठ्यक्रम)**
Paper	: **I**
CODE/Title of Paper	: **(FC – 101) Moral Values & Language - I**
Compulsory/Optional	: **Compulsory**
Max. Marks	: **85 (Moral Education -15, Hindi-35, English-35)**

(FC- 101) Moral Values & Language - I

UNIT-I
नैतिक मूल्य
1. नैतिक मूल्य परिचय एवं वर्गीकरण– डॉ. शशि राय
2. आचरण की सभ्यता – सरदार पूर्णसिंह

UNIT-II
हिन्दी भाषा
1. स्वतंत्रता पुकारती (कविता) – जयशंकर प्रसाद
2. जाग तुझको दूर जाना (कविता) – महादेवी वर्मा
3. उत्साह (निबंध) – रामचन्द्र शुक्ल
4. शिरीष के फूल (ललित निबंध) – हजारी प्रसाद द्विवेदी
5. वाक्य संरचना और अशुद्धियाँ (संकलित)

UNIT-III
हिन्दी भाषा
1. नमक का दारोगा (कहानी) – प्रेमचन्द्र
2. हार की जीत (कहानी) – सुदर्शन
3. भगवान बुद्ध (निबंध) – स्वामी विवेकानंद
4. लोकतंत्र एक धर्म है (निबंध) – सर्वपल्ली राधाकृष्णन
5. पर्यायवाची– विलोम शब्द, एकार्थी–अनेकार्थी शब्द, शब्दयुग्म (संकलित)

UNIT-IV
English Language
1. John Keats : Ode to a Nightingale
2. Rabindra Nath Tagore : Where the Mind is Without Fear
3. Rajgopalachari : Preface to the Mahabharata
4. J.L. Nehru: Tryst with Destiny

UNIT-V
English Language
Comprehension/ Unseen Passage, Composition and Paragraph writing (Based on the expansion of an idea)
Basic language skills : vocabulary, synonyms, antonyms, word formation, prefixes, suffixes, confusing words, misused words, similar words with different meanings. Proverbs
Basic language skills : Grammar and Usage, Tenses, Prepositions, determiners, countable/ uncountable nouns, verbs, articles and adverbs

Swami Vivekanand University, Sagar (M.P.)

Under Graduate Semester wise Syllabus
As recommended by Central Board of Studies and approved by the Governor of M.P.
Session 2016-2017

Class	: BCA (Bachelor Of Computer Application)
Semester	: I
Subject	: Foundation Course
Paper	: II
CODE/Title of Paper	: (FC- 102) Development of Entrepreneurship - I
Compulsory/Optional	: Compulsory
Max. Marks	: 50 (Theory 35+ CCE 15)

(FC- 102) Development of Entrepreneurship - I

Unit I :
Entrepreneurship- Definition, Characteristics and importance, Types & functions of an entrepreneur, motivational factors of entrepreneurship.

Unit II :
(a)Motivation to achieve targets and establishment of ideas. Setting targets and facing challenges. Resolving problems and creativity. Sequenced planning and guiding capacity, Development of self confidence.
(b)Communication skills, Verbal & Non Verbal Communication, Capacity to influence, Modern Techniques of Communication.

Unit III :
(a) Project Report Evaluation of selected process. Detailed project report – Preparation of main part of project report pointing out necessary and viability.
(b)Selecting the form of Organization – Meaning and characteristics of sole Proprietorship, Partnership and cooperative committees, elements affecting selection of a form of an organization.
(c)Economic management – Role of banks and financial institutions banking, financial plans, working capital-evaluation and management, keeping of accounts.

Unit IV:
(a) Production management: Methods of purchase of Raw Materials. Management of movable assets/goods. Quality management, Employee management, Packing.
(b) Marketing Management: Sales and the art of selling. Understanding the market and market policy. Consumer management, Time management.

Unit V:
(a)Role of Regulatory institutions – District Industry Centre, Pollution Control Board, Food and Drug Administration, special study of Electricity Development and Municipal Corporation.
(b)Role of development organizations, Khadi & village Commission/ Board, MP Finance Corporation, scheduled banks, MP Women's Economics Development Corporation.
(**c)Self-employment-oriented schemes**, Prime Minister's Employment schemes, Golden Jubilee Urban environment scheme, Rani Durgawati Self- Employment scheme, Pt. Deendayal Self-employment scheme**.**
(d)Various grant schemes - Cost of Capital grant, interest grant, exemption from entry tax, project report, reimbursement grant, etc.
(e)Special incentives for Women Entrepreneurs, prospects & possibilities.
(f)Schemes of M.P. Tribal Finance Development Corporation, schemes of M.P. Antyavasai Corporation, schemes of M.P. Backward Class and Minorities Finance Development Corporation.

PAPER CODE: BCA - 101

COMPUTER FUNDAMENTALS

Max Marks: 85

UNIT 1

INTRODUCTION OF COMPUTERS: Computer System, System Characteristics and capabilities, Types of Computers: Analog, Digital (Micro, Mini, Mainframe & Super Computers), Generation of Computers.

UNIT 2

COM PUTER ORGANISATION: Block Diagram of Computer and its functional units.
INPUT DEVICES - keyboard, Scanner, Mouse, Light Pen, Bar Code Reader, OMR, OCR, MICR., Track ball, Joystick, Touch Screen etc.,
OUTPUT DEVICES: Monitors – Classification of Monitors based on Technology (CRT Monitor & Flat panel LCD Monitor), Printers – Dot Matrix Printer, Ink Jet Printer, Laser Printer and Plotters, Types of Plotters – Drum Plotter and Flat Bed Plotters, LCD - Projectors.
STORAGE DEVICES: Magnetic tapes, Floppy Disks, Hard Disks, Compact Disc – CD - ROM, CD-RW , VCD, DVD, DVD - RW.

UNIT 3

Programming languages: History, Classifications – Low Level, Assembly & High Level languages, Advantages & Disadvantages Programming Languages.

UNIT 4

TYPES OF SOFTWARE: System Software – Translators (Compilers, Interpreters, Assemblers), Operating System, Linkers, Libraries & Utilities, Application Software**:** Packaged & Tailored Software. OPERATING SYSTEMS: Introduction, Types of O.S. – Single User, Multi User – Multi Programming, Multi Tasking, Real Time, Time Sharing, Batch Processing, Parallel Processing, Distributed Processing.

UNIT 5

PROGRAM PLANNING: Purpose of Program Planning, Steps in Program Development, Characteristics of a Good Program, Algorithms, Flow Charts through examples.

TEXT BOOK:
1. COMPUTER FUNDAMENTALS BY P.K. SINHA
2. OPERATING SYSTEM BY PETERSON
REFERENCE BOOKS:
1. EASY APPROACH TO COMPUTER COURSE BY G.K. IYER
2. COMPUTER TODAY BY S.K. BASANDRA
3. OPERATING SYSTEM BY GODBOLE
4. 'O' LEVEL PROGRAMMING CONCEPTS & SYSTEMS BY V.K. JAIN

PAPER CODE : BCA 102
PC SOFTWARE

UNIT I

Microsoft Disk Operating System: Introduction, History and Versions of DOS, Fundamentals of DOS, Booting Process, Internal DOS Commands, Files and Directories, Elementary External DOS Commands : Scandisk, Format, DiskCopy, Tree, Deltree, Fdisk, More, Edit, Mem, Creating Batch Files.
Introduction to Windows: Control Panel & Accessories.

UNIT I I
Introduction to Word Processing (MS Word): Advantages of Word Processing, Introduction and Installation, Editing a File, Using Paragraph Styles, Coping a block to another File, Newspaper Style Columns, Using Macro.

UNIT I I I
Advanced Word Processing: Headers And Footers, Finding Text, Setting Up Printers, Printing & its formatting, Mail Merge And Other Applications, Mathematical Calculations.

UNIT I V
Introduction To Spreadsheet (Excel): Definition And Advantages of Electronic Worksheet, Working on Spreadsheets, Range & Related Operations, Setting, Saving And Retrieving Worksheet File, Inserting, Deleting, Copying And Moving Of Data Cells, Inserting And Deleting Rows & Columns, Erasing The Worksheet Print preview of Worksheet, Page Margins, setting & adding headers & footers before printing, removing grid lines from printout, printing the title rows.

UNIT V
Functions and Other Features: Classification And Usage Of Various Built - In- Functions In Worksheet, Passwords, Protecting A Worksheet Or Range, Transferring Data To And From Non Worksheet Files, Database Handling, Creating, Naming & Executing Macros In Worksheet Using @ If To Make A Formula, Default Settings.

TEXT BOOK:

P C Software by R K Taxali, TMH

Reference Books:
1.   Windows Based Computer Courses By Gurvinder Singh & Rachhpal Singh
2.   Ms - Office Interactive Course By Greg Perry, Techmedia
3.   Understanding Computer Fundamentals & Dos By G.K. Iyar
4.   W INDOW S MANUAL

PAPER CODE: BCA 103
DIGITAL COMPUTER ELECTRONICS

Max M arks: 85

UNIT I
Representation of information, Number System: Binary, Octal, Hexadecimal, Conversions from one base to another base, Binary Arithmetic, Unsigned binary number, signed magnitude number, 2's complement representation, 2's complement arithmetic, ASCII Code, BCD Code, EBCDIC Code, Excess -3 Code and Gray Code.

UNIT II
Basic logic designs: Logic gates – AND, OR, NOT, NOR, NAND, XOR gates and their Truth Tables, Boolean algebra, Minimization techniques, Karnaugh-map, SOP and POS forms, Combinational circuit design with gate: multiplexers & de-multiplexers, Encoder -Decoder, Adders and Subtractor, Flip flops : RS, JK, Master slave flip flops, Introduction to counters and registers .

UNIT III
Memory: Memory cell, Primary memory— RAM, ROM , PROM, EPROM, EEPROM, Cache memory, Secondary Memory and its types, Introduction to physical memory and Virtual memory, memory accessing methods : serial and random access.

UNIT IV
Buses, Word Length of a Computer, Processing speed of a computer, Microprocessor, User Interface, Hardware, Software and Firmware concepts, General architecture of CPU, Instruction Format, Data transfer instructions, Data Manipulation instructions, Program control instructions. Types of CPU organization: Accumulator based machine, Stack based machine and general –purpose register based machine, addressing modes: Direct, indirect, immediate, register and relative addressing modes.

UNIT V
Data transfer schemes: (1) Programmed data transfer-- synchronous, asynchronous and interrupt driven data transfer scheme, (2) Direct memory access data transfer.

TEXT BOOKS :-
1. Digital Principles and applications by Malvino & Leach
2. Computer Fundamentals and Architecture by B.Ram

REFERENCE BOOKS :
1. Computer System Architecture by M.Morris Mano
2. Digital Computer Electronics by Malvino & Brown
3. Digital Computer Fundamentals by . Bartee

PAPER CODE: BCA 104
COMMUNICATION AND MANAGEMENT

Max M arks: 85

UNIT I
Introduction: Communication – Definition, Nature, Objectives, Importance to Managers, Communication Theories and Processes. Symbiotic Interactionism Information Theory, Transaction theory, Elements of Communication. Importance of Feedback.

UNIT II
Dimensions of Communication & Directions of Communication, Media/ Means of Communication – Verbal (oral & written), Non -verbal Oral Communication, Effective Listening, Principles of Effective Communication.

UNIT III
Non –Verbal Communication – Gesticulation, sign language / Visual and audio elements, Channels of Communication— Formal, Informal/ Grapevine, Barriers to communication, Oral Business Communication – Speeches, Interviews, Group Discussions, Conference.

UNIT IV
Written Business Communication –Concept, Advantages, Disadvantages and Importance, Need of business letters, Kinds of business letters, W riting Skills, Essentials of an effective business letter, structure of a business letter, Enquiries, Replies, Orders, Credit and Reference letters, Supply letters, Dunning letters, Sales letters, Circular letters.

UNIT V
Drafting –Official letters, D.O. letters, application for jobs. Report Writing –Importance of reports, Types of Business reports, Chairman's Speech, Reports of Committees. Modern Forms of Communication— fax, E -Mail, Video Conferencing, (International Communication Adapting to Global business).

TEXT BOOKS :-
1. Business Communication - Sahitya Bhawan Publication.
REFERENCES: -
1. Business Communication by Virendra Kumar.
2. Business Communication & Organisation Management By Rohini Agalwal.

PAPER CODE: BCA 105
DOS (PRACTICAL + VIVA)

M.M. : 25

DOS :

1. Use DOS commands for the following purpose from the root directory:
   a. Create a directory 'College'
   b. Go to the college directory
   c. Copy all document files from root directory to college directory
   d. Delete the 'College' directory
2. Create a text file and type your name and address in 3 lines and save it using DOS prompt.
3. Create a batch file to execute M S Word application.
4. Use specific DOS commands for the purpose as mentioned below:
   a. View the files stored in the root directory
   b. List the complete details of all the files in ascending order
   c. View the files according the file type
   d. Rename all '.txt' files with extension '.axt'
5. Create a Path command from the root directory to run a batch file stored in your working directory.

PAPER CODE: BCA 106
MS OFFICE (PRACTICAL + VIVA)

M.M. : 25

MS Word :

1. Design your College Banner.
2. Write your syllabus of PC Software using formatting & Editing properties as mentioned in your syllabus – Cut, Copy, Paste, Bold, Underline, Indentation, Font Size, Paragraph line spacing.
3. Write an appointment letter for Marketing Executive of 'ABC Company' using the company's letterhead.
4. Using ClipArt & WordArt, insert images in your document and design it with text special effects and background effects.
5. Write your bio -data using formatting tool s–colors, numbers/bullets, alignment, and border
6. Write a birthday invitation to your friends using mail merge.
7. Create a macro to print the College name 'Sri Sathya Sai College for Women, Bhopal'.
8. Design your Timetable using Table and its formatting features.

MS Excel :

1. Design your class Time Table.
2. Prepare a Mark Sheet of your class subjects.
3. Prepare a Salary Slip of an employee.
4. Prepare a bar chart & pie chart for analysis of Election Results.
5. Prepare a generic Bill of a Super Market.
6. Work on the following exercise on a Workbook:
      a. Copy an existing Sheet
      b. Rename the old Sheet
      c. Insert a new Sheet into an existing Workbook
      d. Delete the renamed Sheet.
7. Prepare an Attendance sheet of 10 students for any 6 subjects of your syllabus. Calculate their total attendance, total percentage of attendance of each student & average of attendance.
8. Create a worksheet on Students list of any 4 faculties and perform following database Functions on it.
      a. Sort data by Name
      b. Filter data by Class
      c. Subtotal of no. of students by Class.

Swami Vivekanand University, Sagar (M.P.)

COURSEWISE SCHEME
SECOND SEMESTER

1. Course Code :	BCA	6. Project :	N
2. Course Name :	Bachelor Of Computer Application	7. Maximum marks :	600
3. Total Subject :	**6**	8. Minimum Passing percentage:	33%
4. Compulsory Subject :	**6**		
5. Practical + viva :	**Y**		

SUBJECT CODE	SUBJECT NAME	Theory						Practical		Total	
		Paper		CCE		Total					
		MAX	MIN	Max	Min	Max	Min	Max	Min	Max	Min
	FOUNDATION COURCE										
FC 201	**Moral Values & Language - II**	85	28	15	5	100	33	0	0	150	50
FC 202	**Development of Entrepreneurship - II**	35	12	15	5	50	17	0	0		
BCA 201	**Elementary Mathematics**	85	28	15	5	100	33	0	0	100	33
BCA 202	**Desk Top Publishing**	85	28	15	5	100	33	0	0	100	33
BCA 203	**Programming in 'C'**	85	28	15	5	100	33	0	0	100	33
BCA 204	**Management Accounting**	85	28	15	5	100	33	0	0	100	33
BCA 205	**Page Maker (Practical +Viva)**	0	0	0	0	0	0	25	9	25	9
BCA 206	**Programming in 'C (Practical +Viva)**	0	0	0	0	0	0	25	9	25	9

Grand Total = 600

Under Graduate Semester wise Syllabus
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Session 2016-2017

Class   : BCA (Bachelor Of Computer Application) 1 Year
Semester   : II
Subject   : Foundation Course (आधार पाठ्यक्रम)
Paper   : I
CODE/Title of Paper   : (FC – 201) Moral Values & Language - II
Compulsory/Optional   : Compulsory
Max. Marks   : 85 (Moral Education -15, Hindi-35, English-35

(FC- 201) Moral Values & Language – II

UNIT - I
नैतिक मूल्य
1. अंतर्ज्ञान और नैतिक जीवन – सर्वपल्ली राधाकृष्णन
2. अप्प दीपो भव. – स्वामी श्रद्धानंद
3. बुद्ध की करुणा – डॉ. सद्धा तिस्स

UNIT - II
हिन्दी भाषा
1. भारत वन्दना (कविता) – सूर्यकांत त्रिपाठी 'निराला'
2. पुष्प की अभिलाषा (कविता) – माखनलाल चतुर्वेदी
3. अकाल और उसके बाद (कविता) – नागार्जुन
4. निर्माल्य (ललित निबंध) – विद्यानिवास मिश्र
5. मानक हिन्दी का स्वरूप (संकलित)

UNIT - III
हिन्दी भाषा
1. अफसर (व्यंग्य) – शरद जोशी
2. भोलाराम का जीव (व्यंग्य) – हरिशंकर परसाई
3. भारत का सामासिक व्यक्तित्व (चिंतनपरक) – जवाहरलाल नेहरू
4. भारत देश और उसके निवासी (विश्लेषणपरक) – रामधारी सिंह दिनकर
5. पल्लवन और संक्षेपण (संकलित)

UNIT - IV
English Language
1. William Wordsworth : The Solitary Reaper
2. A Song of Kabir- Translated by Tagore
3. Khushwant Singh : The Portrait of a Lady
4. Mahatma Gandhi : Satyagraha

UNIT - V

English Language Comprehension, Unseen Passages, Report- writing, Composition, Short Essay, Paragraph Writing (Based on the expansion of an idea)

Basic language skills : vocabulary, synonyms, antonyms, word formation, prefixes, suffixes, confusing words, similar words with different meanings, proverbs, situational conversations like conversation at the post office, bank, market place, railway station, college etc.

Basic language skills: Grammar and Usage, Tenses, Prepositions, determiners, countable/ uncountable nouns, verbs, articles and adverbs

Under Graduate Semester wise Syllabus
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Session 2016-2017

Class	: BCA (Bachelor Of Computer Application)
Semester	: II
Subject	: Foundation Course (आधार पाठ्यक्रम)
Paper	: II
CODE/Title of Paper	: (FC- 102) Development of Entrepreneurship - I
Compulsory/Optional	: Compulsory
Max. Marks	: 50 (Theory 35+ CCE 15)

(FC- 202) Development of Entrepreneurship - II

Unit I :

Entrepreneurship- Meaning, Concept, Characteristics of entrepreneur, Qualities of Successful Entrepreneurs.

Unit II:
Types of entrepreneurship, importance and views of various thinkers (Scholars) .
- -Formation of goals, How to achieve goals.
- -Problems in achieving targets and solution.
- -Self motivation, elements of self motivation and development.
- -Views of various scholars, evaluation, solutions.
Leadership capacity: Its development and results.

Unit III :
Projects and various organizations (Govt., non-Govt.), Govt. Projects, Non- Govt. projects. Contribution of Banks, their limitations, scope.

Unit IV :
Functions, qualities, management of a good entrepreneur. Qualities of the entrepreneur (Modern and traditional). Management skills of the entrepreneur. Motive factors of the entrepreneur.

Unit V:
Problems and Scope of the Entrepreneur :
- -Problem of Capital
- -Problem of Power
- -Problem of Registration
- -Administrative problems
- -Problems of Ownership.

PAPER CODE: BCA 201
ELEMENTARY MATHEMATICS

Max M arks: 85

UNIT 1
Trigonometry: Angles & their Measurement, Values of Trigonometric Ratios and their Graphical Representations, Height and Distances.

UNIT 2
Theory of Indices, Definition & Types of Matrices, Special Matrices, Elementary Transformation of Matrices, Sparse Matrices.

UNIT 3
Frequency Distribution, Histogram, Measure of Central Tendency, Mean, Mode, Median, Standard Deviation.

UNIT 4
Determinant And Matrices, Special Matrices, Inverse of a Matrix. Ratio And Proportion, Percentage, Commission & Brokerage, Discount, Profit & Loss.

UNIT 5
Limits & Continuity, Limits of Functions, Infinite Limits, Limits at Infinity, Continuous Function, Differentiation of 1st and 2nd Order, Integration – finite, infinite, addition, subtraction & multiplication.

Text Books:
1. Business Mathematics BY . *S.M.SHUKLA*
2. Fundamental of Statistics BY . *ELHANCE & ELHANCE*

Reference Books :
1. Mathematical Statistics BY H.S.SHARMA
2. Differential & Integral Calculus BY RAY & SETH
3. Matrices BY RAY & SETH.

PAPER CODE: BCA 202
DESK TOP PUBLISHING

Max Marks: 85

UNIT I
Why Graphics? Various Types of Graphics Programs, Drafting Packages, DTP Package, Microsoft Windows. Various Documentation cum DTP Packages e.g. Word Perfect, Microsoft Word Etc.

UNIT II
Introduction to PageMaker / Ventura or a similar Package. Preparation of Document Using DTP Package.

UNIT III
Text Formatting, Different Page Layouts, Printing Various Fonts And Character Sets. Various types of Printers used in DTP.

UNIT IV
Introduction to Commercial DTP System available in market, Indian Language Fonts, Creation of Indian Language Fonts.

UNIT V
Import & Export of Documents created by other W ord Processors, Spelling Check, Designing exercise like Visiting Card, Greeting Cards etc.

Text Books:
1. Desktop Publishing on PC by M C Sharma, BPB Publication.
2. PAGE M AKER 6 BY BPB PUBLICATIONS.
Reference Books :
1. PAGE MAKER – MANUAL .
2. 'O' LEVEL MODULE M 3.2 DESKTOP PUBLISHING & PRESENTATION GRAPHICS BY V K JAIN, BPB PUBLICATIONS..

PAPER CODE: BCA 203

PROGRAMMING IN 'C'

Max M arks: 85

UNIT I

Program Logic development Using algorithm and Flowchart, Historical development of 'C', constants, variables and keywords, 'C' instructions. Data types – int, float, double, char, void, short, long, long double, signed, unsigned.

UNIT II

Decision control structure: - if statement, if -else statement , the conditional operators. Case control structure: switch statement, go to statement .'C' operators: Arithmetic, relational and logical Development of 'C' program using Decision control & Case control structure.

UNIT III

Operators: - Increment and Decrement operators, Bitwise operator, Operators precedence, arithmetic and logical expressions evolution. Loop Control Structure: - for loop, while loop and do -while loop, Break statement, continue statement. Development of 'C' programs using loops.

UNIT IV

Arrays: One dimension array, 2D array, 3D array, Introduction to Pointers. Functions: Function declaration and prototypes, Passing values between functions: - call by value. Development of 'C' programs using Arrays, functions.

UNIT V

Storage classes in 'C', Structures: - declaring a structure, accessing structure element, how structure elements are stored, array of structures, union.

Text Books:
1. Let US C by Yashwant Kanitkar
2. Programming in C by E. Balaguruswami

Reference Books:
1. Schaum's Series 'C' Programming
2. The complete reference in C/C++ Herbert Shield
3. Working with C by Yashwant Kanitkar

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PAPER CODE: BCA 204
MANAGEMENT ACCOUNTING

Max M arks: 85

UNIT I
Introduction and Purpose of Accounting and Uses of Accounting Information, Basic Accounting Concepts, Accounting Structure, Process of Accounting, Journal, Ledger & Trial Balance based on Double Entry Book – Keeping.

UNIT II
Valuation of Assets and Depreciation Methods: Straight Line Method, Diminishing Balance Method, Sinking Fund Method, Insurance Method and Aunty Method.

UNIT III
Practical System of Accounting: Cash Book, Sales & Purchase of Goods, Bills of Exchange, Bank Reconciliation Statement.

UNIT IV
Preparation of Financial Statements: Income Statement (Profit & Loss Account), Statement of Financial Position (Balance Sheet) and Adjustment.

UNIT V
Analysis of Financial Statements – Financial Ratio.

Reference Books:

1. Management Accounting BY *HINGORANI, GREWAL.*
2. Financial Management BY . *KHAN & JAIN*
3. Management Accounting by Shashi K Gupta, S Chand Publication.
4. Financial Accounts by Dr S M Shukla, Sahitya Bhavan Publications.

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PAPER CODE: BCA 205

PAGE MAKER (Practical + Viva)

M.M. : 25

PageMaker

1. Create a Greeting Card for New Year.
2. Create a Visiting Card.
3. Create your Resume.
4. Create an advertisement for job in well -known form.
5. Create a Newspaper Report.
6. Create a document by importing Graphic Image from Clip Art.
7. Create a Wedding Card.
8. Type a document using Story Editor.
9. Input a text from Word Document into a PageMaker document.
10. Create a document on Importance of Text Wrap, applying proper font size, N tabs, alignment &indentation.

PAPER CODE: BCA 206

"C" PROGRAMMING (Practical + Viva)

M.M. : 25

'C' Programming

1. Program to find roots of quadratic equations.
2. Program to Raise X to the power N.
3. Program for Generating Histogram.
4. Program to Add Digits of a number.
5. Program to check whether a number is prime.
6. Program to print a given number in Reverse order.
7. Program for Finding GCD of two numbers.
8. Program to generate Fibonacci series.
9. Program for Reversing an Array.
10. Program to calculate factorial of a given number.
11. Program to add series $1+X+X^2+X^3+........+X^n$.
12. Program for linear search.

स्वामी विवेकानंद विश्वविद्यालय, सिरोंजा, सागर (म.प्र.)

Swami Vivekanand University, Sironja, Sagar (M.P.)

As per model syllabus of U.G.C. New Delhi, drafted by Central Board of Studies and Approved by Higher Education and the Governor of M.P.

Faculty of Computer Science
Syllabus & Prescribed Books

Subject-Bachelor of Computer Application

B.C.A. Semester
Examination 2016-17
III

कुलसचिव
स्वामी विवेकानंद विश्वविद्यालय, सिरोंजा, सागर (म.प्र.)

Swami Vivekanand University, Sagar (M.P.)

COURSEWISE SCHEME
3RD SEMESTER

1. Course Code : **BCA**

2. Course Name : **Bachelor Of Computer Application**

3. Project Marks : **NA**

4. Project : **N**

5. Maximum marks : **600**

6. Minimum Passing percentage: **33%**

SUBJECT CODE	SUBJECT NAME	Theory						Practical		Total	
		Paper		CCE		Total					
		MAX	MIN	Max	Min	Max	Min	Max	Min	Max	Min
BCA 301	DATA BASE MANAGEMENT SYSTEMS	85	28	15	5	100	33	0	0	100	33
BCA 302	OBJECT ORIENTED PROGRAMMING WITH C++	85	28	15	5	100	33	0	0	100	33
BCA 303	INTERNET & E-COMMERCE	85	28	15	5	100	33	0	0	100	33
BCA 304	DATA STRUCTURES	85	28	15	5	100	33	0	0	100	33
BCA305	OPERATING SYSTEMS	85	28	15	5	100	33	0	0	100	33
BCA 306	COMPUTER LAB V: C++ & OPERATING SYSTEM	0	0	0	0	0	0	50	17	50	17
BCA 307	COMPUTER LAB VI :DATA STRUCTURES & INTERNET AND E-COMMERCE	0	0	0	0	0	0	50	17	50	17

Grand Total = 600

COURSEWISE SCHEME
4TH SEMESTER

1. Course Code : BCA
2 . Course Name : Bachelor Of Computer Application
3. Project Marks : NA

4. Project : N
5. Maximum marks : 600
6. Minimum Passing percentage: 33%

| SUBJECT CODE | SUBJECT NAME | Theory | | | | | | Practical | | Total | |
| | | Paper | | CCE | | Total | | | | | |
		MAX	MIN	Max	Min	Max	Min	Max	Min	Max	Min
BCA 401	SYSTEM ANALYSIS AND DESIGN	85	28	15	5	100	33	0	0	100	33
BCA 402	ORACLE RDBMS	85	28	15	5	100	33	0	0	100	33
BCA 403	PROGRAMMING WITH VISUAL BASIC.NET	85	28	15	5	100	33	0	0	100	33
BCA 404	COMPUTER NETWORKS	85	28	15	5	100	33	0	0	100	33
BCA405	Elective -I (Refer Table Below)	85	28	15	5	100	33	0	0	100	33
BCA 406	COMPUTER LAB VII: LINUX	0	0	0	0	0	0	50	17	50	17
BCA 407	COMPUTER LAB VIII: ORACLE	0	0	0	0	0	0	50	17	50	17

Grand Total = **600**

Elective –I

BCA-405 (A) - LINUX OS SERVER
BCA 405 (B) – BUSINESS STATISTICS
BCA 405 (C) - PRODUCTION MANAGEMENT

BCA - 301
DATABASE MANAGEMENT SYSTEMS

UNIT-I

Operational data, Purpose of database system, Views of data, Data models: Relational, Network, Hierarchical, Instances & Schemes, Data Dictionary, Types of Database languages : DDL, DML, Structures of a DBMS, Advantages & Disadvantages of a DBMS,3-level Architecture Proposal : External, Conceptual & Internal Levels, Entity Relationship Model as a tool of conceptual design : Entities & Entity set, Relationship & Relationship set, Attributes, Mapping Constraints, Keys, Entity-Relationship diagram (E-R diagram) : Strong & weak entities, Generalization, Specialization, Aggregation, Reducing ER diagram to tables

UNIT-II

Set theory concepts and fundamentals: Relations, Domains, Attributes, Tuple, Concepts of Keys: Candidate key, Primary Key, Alternate Key, Super Key, Foreign Key, Fundamental integrity rules: Entity integrity, Referential integrity, Extension & Intention

Functional Dependencies, Good & Bad Decomposition, Anomalies as a database: A consequences of bad design, Universal Relation, Normalization: 1NF, 2NF, 3NF, BCNF, 4NF 5NF.

UNIT-III

Relational Algebra: Select, Project, Cross product, Different types of joins i.e. theta join, equi-join, natural join, outer join, set operations .

Structured query language(SQL),Using MS Access, Implementing SQL Functions, Integrity, Indexing, View Using MS Access. DBA – Role, Functionality and Importance.

UNIT-IV

Failure Classification, The Storage Hierarchy, Transaction Model, Storage and File Structure, RAID, Storage Access, File Organization, Organization of Records in File, Data Dictionary storage.

UNIT-V

Database functionality and Importance.

Database system architectures-centralized system, client server system, parallel system, distributed system. Overview Database on Web- concepts of ODBC, DSN.

TEXT & REFERENCE BOOKS :
- *"Database Management System" bY Leon & Leon, Vikas Publications*
- *"Database System Concepts" by Henry F.Korth & Abraham Silberschatz .*
- *"an introduction to database system" by Bipin C.Desai*
- *"An Introduction To Database System" by C.J.Date*

BCA – 302
OBJECT ORIENTED PROGRAMMING WITH C++

UNIT -I

Overview of C++ : Object oriented programming, Concepts, Advantages, Usage. C++ Environment: Program development environment, the language and the C++ language standards. Introduction to various C++ compilers, C++ standard libraries, Prototype of main() function, Data types.

Classes & Objects : Classes, Structure & classes, Union & Classes, Friend function, Friend classes, Inline function, Scope resolution operator, Static class members, Static data member, Static member function, Passing objects to function, Returning objects, Object assignment.

UNIT-II

Array, Pointers References & The Dynamic Allocation operators : Array of objects, Pointers to object, Type checking C++ pointers, The This pointer, Pointer to derived types, Pointer to class members, Constructor & Destructor : Introduction, Constructor, Parameterized constructor, Multiple constructor in a class, Constructor with default argument, Copy constructor, Default Argument, Destructor.

UNIT-III

Function & operator overloading : Function overloading, Overloading constructor function finding the address of an overloaded function, Operator Overloading: Creating a member operator function, Creating Prefix & Postfix forms of the increment & decrement operation, Overloading the shorthand operation (i.e. +=,-= etc), Operator overloading restrictions,

UNIT-IV

Inheritance : Base class Access control, Protected members, Protected base class inheritance, Inheriting multiple base classes, Constructors, destructors & Inheritance, When constructor & destructor function are executed, Passing parameters to base class constructors, Granting access, Virtual base classes .

Virtual functions & Polymorphism : Virtual function, Pure Virtual functions, Early Vs. late binding

UNIT-V

The C++ I/O system basics : C++ streams, The basic stream classes: C++ predefined streams, Formatted I/O: Formatting using the ios members, Setting the format flags, Clearing format flags, An overloaded form of setf ( ), Examining the formatted flags, Setting all flags, Using width() precision() and fill(), Using manipulators to format I/O, Creating your own manipulators.

TEXT & REFERENCE BOOKS :

- *Herbert Schildt, "C++ **The Complete Reference** " - TMH Publication ISBN 0-07-463880-7*
- *R. Subburaj, "**Object Oriented Programming With C++** ", Vikas Publishing House, New Delhi.isbn 81-259-1450-1*
- *E. Balguruswamy, "C++ ", TMH Publication ISBN 0-07-462038-x*
- *M Kumar "**Programming In C++**", TMH Publications*

BCA – 303
INTERNET & e - COMMERCE

UNIT–I

Internet: Evolution, Concepts, Internet Vs Intranet, Growth of Internet, ISP, ISP in India, Types of connectivity - Dial-up, Leased line, DSL, Broadband, RF, VSAT etc.,

WORLD WIDE WEB (WWW) - History, Working, Web Browsers, Its functions, TCP/IP and others main protocols used on the Web. E-Mail: Concepts, POP and WEB Based E-mail, merits, address, Basics of Sending & Receiving, E-mail Protocols.

UNIT–II

Concepts of Hypertext, HTML introduction, features, uses & versions Using various HTML tags, Elements of HTML syntax, Head & Body Sections, , Inserting texts, Text alignment, Using images in pages, Hyperlinks – text and images, bookmarks, Backgrounds and Color controls, creating and using Tables in HTML, and presentation, Use of font size & Attributes, List types and its tags. Cascading Style sheets – defining and using simple CSS.

UNIT-III

Introduction to WYSIWYG Design tools for HTML, Overview of MS FrontPage, Macromedia Dream weaver, and other popular HTML editors, designing web sites using MS FrontPage (using at least FrontPage 2000)

Web Hosting and publishing Concepts, Hosting considerations, Choosing Web servers – Linux Vs Windows Web servers, Choosing Domain names, Domain name Registration, Obtaining space on Server for Web site,

UNIT–IV

Javascript Overview, Javascript and the WWW, Javascript vs. VBScript, Javascript vs. Java, Javascript versions, Script element,.

Functions: Functions introduction, Calling functions, Javascript Comments, Variables: Variables overview, declaring variables, Types of variables, Casting variables, Alert box , Prompt & confirm.

UNIT–V

E - Commerce An introductions, Concepts, Advantages and disadvantages, Technology in E-Commerce, Internet & E-business, Applications, Feasibility & various constraints. E-transition challenges for Indian corporate, the Information Technology Act 2000 and its highlights related to e-commerce.

Electronic Payment Systems: Introduction, Types of Electronic Payment Systems, Digital Token-Based Electronic Payment Systems, Smart Cards and Electronic Payment Systems, Credit Card-Based Electronic Payment Systems, Risk and Electronic Payment Systems.

TEXT & REFERENCE BOOKS :

- *Frontiers of Electronic Commerce, By- Kalakota, Ravi ; Stone, Tom ; Whinston, Andrew B, Addison Wesley Publishing Co , ISBN 8178080575*
- *E-Commerce An Indian Perspective (Second Edition) – by P.T. Joseph, S.J. Prentice-Hall of India*
- *Internet & Web Design By A. Mansoor, Pragya Publications.*
- *Learn HTML in a weekend by Steven E. Callihan, PHI*

BCA – 304
DATA STRUCTURES

UNIT–I

The concept of data structure, Abstract data type, Concept of list & array Introduction to stack, Stack as an abstract data type, primitive operation on stack, Stacks application: Infix, post fix, Prefix and Recursion, Multiple Stack.

Introduction to queues, Primitive Operations on the Queues, Queue as an abstract data type, Circular queue, Dequeue, Priority queue, Applications of queue

UNIT–II

Introduction to the Linked List, Basic operations on linked list, Stacks and queues linked list, Header nodes, Doubly Linked List, Circular Linked List, Stacks & Queues as a Circular Linked List, Application of Linked List.

UNIT–III

TREES - Basic Terminology, Binary Trees, Tree Representations using Array & Linked List, Basic operation on Binary tree, Traversal of binary trees:- In order, Preorder & post order, Application of Binary tree, Threaded binary tree, B-tree & Height balanced tree, Binary tree representation of trees.

UNIT–IV

Analysis of algorithm, complexity using big 'O' notation. Searching: linear search, Binary search, their comparison.

Sorting :Insertion sort, Selection sort, Quick sort, Bubble sort, Heap sort, Comparison of sorting methods. Hash Table, Collision resolution Techniques.

UNIT–V

Introduction to graphs, Definition, Terminology, Directed, Undirected & Weighted graph, Representation of graphs, Graph Traversal-Depth first & Breadth first search. Spanning Trees, minimum spanning Tree, Shortest path algorithm.

TEXT & REFERENCE BOOKS
- ***Fundamentals Of Data Structure,*** *By S. Sawhney & E. Horowitz*
- ***Data Structure :*** *By Trembley & Sorrenson*
- ***Data Structure*** *: By lipschuists (Schaum's Outline Series Mcgraw Hill Publication)*
- ***Fundamentals Of Computer Algorithm:*** *By Ellis Horowitz and Sartaj Sawhney*

BCA – 305
OPERATING SYSTEM

UNIT–I

Definitions, functions and types of operating system, System components, Operating system Services, System Calls, System programs, System structure.

UNIT–II

Process Concepts, process state & process control block, Process Scheduling, Scheduling Criteria, Scheduling Algorithms, Multiple-Processor Scheduling Real-Time Scheduling, Threads, Threads in Linux.

UNIT–III

Critical Section Problem , Semaphores, Classical Problem Of Synchronization, , Deadlock Characterizations, Method for Handling Deadlocks, Deadlock Prevention, Deadlock Avoidance, Deadlock Detection, Recovery from Deadlock, Process Scheduling in Linux.

UNIT–IV

Logical versus physical address space, Swapping, Contiguous Allocating, Paging, Segmentation, Virtual Memory, Demand Paging, Performance of Demand Paging, Page Replacement, Page Replacement Algorithms, Memory Management in Linux.

UNIT–V

Disk Scheduling, Disk Management, Swap Space Management, Disk reliability, Stable Storage Implementation. File Concepts Directory structure, Protection, File system in Linux.

TEXT & REFERENCE BOOKS :-

* *Operating System Concepts by* Silberschatz & Galvin, Addison Wesley Publication 6th Edition.
* *Operating System Concepts & Design by* Milan Milen Kovic, TMH Publication

BCA 306

COMPUTER LAB V : C++ & OPERATING SYSTEM

List of experiments (Expandable): C++

Programming assignments may be given to students so that they can better understand the concepts of
object oriented programming such as objects, classes, class-relationships, association, aggregation,
inheritance, polymorphism etc.

List of Experiment : OPERATING SYSTEM

1. Write a program to implement FCFS CPU scheduling algorithm.
2. Write a program to implement SJF CPU scheduling algorithm.
3. Write a program to implement Priority CPU Scheduling algorithm.
4. Write a program to implement Round Robin CPU scheduling algorithm.
5. Write a program to compare various CPU Scheduling Algorithms over different Scheduling Criteria.
6. Write a program to implement classical inter process communication problem (producer Consumer).
7. Write a program to implement classical inter process communication problem (Reader Writers).
8. Write a program to implement classical inter process communication problem (Dining Philosophers).
9. Write a program to implement & Compare various page replacement algorithm.
10. Write a program to implement & Compare various Disk & Drum scheduling Algorithms
11. Write a program to implement Banker's algorithms.
12. Write a program to implement Remote Procedure Call (RPC).
13. Write a Devices Drivers for any Device or peripheral.

BCA 307

COMPUTER LAB VI :
DATA STRUCTURES & INTERNET AND E-COMMERCE

List of Experiments (Expandable):

1. Write a program for Iterative and Recursive Binary Search.
2. Write a program for Merge Sort.
3. Write a program for Bubble Sort.
4. Write a program for Selection Sort.
5. Write a program for Quick Sort.
6. Write a program for insertion and deletion in array.
7. Write a program for push an pop operation in stack.
8. Write a program for Huffman coding.
9. Write a program for minimum spanning trees using Kruskal's algorithm.
10. Write a program for minimum spanning trees using Prim's algorithm.
11. Write a program for single sources shortest path algorithm.

BCA 401 - SYSTEM ANALYSIS AND DESIGN

UNIT-I

System Concept: Definition, Characteristics, Elements of system, Physical and abstract system, open and closed system, man-made information systems.

System Development Life Cycle: Various phases of system development, Considerations for system planning and control for system success.

System Planning: Base for planning a system, Dimensions of Planning.

UNIT-II

Initial Investigation: Determining users requirements and analysis, fact finding process and techniques.

Feasibility study: Determination of feasibility study, Technical, Operational & Economic Feasibilities, System performance constraints, and identification of system objectives, feasibility report. Cost/Benefit Analysis: Data analysis cost and benefit analysis of a new system. Categories determination and system proposal.

UNIT-III

Tools of structured Analysis: Logical and Physical models, context, diagram, data dictionary, data diagram, form driven methodology, IPO and HIPO charts, Gantt charts, system model, pseudo codes, Flow charts- system flow chart, run flow charts etc., decision tree, decision tables, data validation, Input/ Output and Form Design: Input and output form design methodologies, menu, screen design, layout consideration.

UNIT-IV

Management standards – Systems analysis standards, Programming standards, operating standards.

Documentation standards – User Manual, system development manual, programming manual, programming specifications, operator manual.

System testing & quality: System testing and quality assurance, steps in system implementation and software maintenance.

System security: Data Security, Disaster/ recovery and ethics in system development, threat and risk analysis. System audit.

UNIT-V

Organization of EDP: Introduction. Job Responsibilities & duties of EDP Personnels- EDP manager, System Analyst, Programmers, Operators etc. Essential features in EDP Organization. Selection of Data Processing Resources: purchase, lease, rent-advantages and disadvantages.

Hardware and software procurement – In-house purchase v/s hiring and lease.

Text & Reference Books:

1. *System Analysis & Design by V K Jain, Dreamtech Press*
2. *Modern System Analysis &Design by A Hoffer, F George, S Valaciah Low Priced Edn. Pearson Education.*
3. *Information Technology & Computer Applications, by V.K.Kapoor, Sultan Chand & Sons, New Delhi.*

BCA 402 – ORACLE RDBMS

UNIT - I
Oracle product details, Different Data base model , RDBMS components – Kernel, Data dictionary, Client/Server Computing and Oracle, Overview of oracle architecture – Oracle files, System and User process, Oracle Memory, System data base object, Protecting data

UNIT - II
Oracle data types, Working with Tables.Data Constraints, Column level & table Level Constraints.Defining different constraints on the table Defining Integrity Constraints in the ALTER TABLE Command. Select Command, Logical Operator, Range Searching, Pattern Matching, Oracle Function, Grouping data from Tables in SQL, Manipulation Data in SQL
Joining Multiple Tables (Equi Joins),Joining a Table to itself (self Joins), Subqueries Union, intersect & Minus Clause, Creating view, Renaming the Column of a view, Granting Permissions, - Updation, Selection, Destroying view

UNIT-III
Creating Indexes.Creating and managing User, PL/SQL, SQL & PL/SQL differences, block structure, variables, constants, datatype, Assigning database values to variables, Select … INTO, Using cursors

UNIT-IV
Error handling, Built-in exceptions, User defined exceptions, The Raise-Application-error procedure, Oracle transaction, Locks, Implicit and Explicit locking. Procedures & Functions - Concept, creation, execution, advantages, syntax, deletion.

UNIT-V
Triggers - Concept, use, how to apply database triggers, type of triggers, syntax, deleting. Functions of Oracle DBA. Create Database, Create tablespace. Import & Export Oracle backup & recovery

TEXT & REFERENCE BOOKS :

1. *Ivan Bayross, "SQL, PL/SQL", Bpb Publications"*
2. *Liebschuty, "The Oracle Cook Book", BPB Publication*
3. *Michael Abbey, Michael J.Corey, "Oracle A Beginners Guide". TMH Publication*
4. *Oracle Unleashed (Chapter 1,2,3,4,5 and 9)*

BCA 403 -PROGRAMMING WITH VISUAL BASIC.NET

UNIT–I

Introduction to .NET, .NET Framework features & architecture, CLR, Common Type System, MSIL, Assemblies and class libraries. Introduction to visual studio, Project basics, types of project in .Net, IDE of VB.NET- Menu bar, Toolbar, Solution Explorer, Toolbox, Properties Window, Form Designer, Output Window, Object Browser.

The environment: Editor tab, format tab, general tab, docking tab. visual development & event drive Programming -Methods and events.

UNIT–II

The VB.NET Language- Variables -Declaring variables, Data Type of variables, Forcing variables declarations, Scope & lifetime of a variable, Constants, Arrays, types of array, control array, Collections, Subroutines, Functions, Passing variable Number of Argument Optional Argument, Returning value from function. Control flow statements: conditional statement, loop statement. Msgbox & Inputbox.

UNIT – III

Working with Forms : Loading, showing and hiding forms, controlling One form within another. GUI Programming with Windows Form: Textbox, Label, Button, Listbox, Combobox, Checkbox, PictureBox, RadioButton, Panel, scroll bar, Timer, ListView, TreeView, toolbar, StatusBar.There Properties, Methods and events. OpenFileDilog, SaveFileDialog, FontDialog, ColorDialog, PrintDialog. Link Label. Designing menues : ContextMenu, access & shorcut keys.

UNIT–IV

Object oriented Programming: Classes & objects, fields Properties, Methods & Events, constructor, inheritance. Access Specifiers: Public Private, Projected. Overloading, My Base & My class keywords. Overview of OLE, Accessing the WIN32 API from VB.NET & Interfacing with office97, COM technology, advantages of COM+, COM & .NET, Create User control, register User Control, access com components in .net application.

UNIT–V

Database programming with ADO.NET – Overview of ADO, from ADO to ADO.NET, Accessing Data using Server Explorer. Creating Connection, Command, Data Adapter and Data Set with OLEDB and SQLDB. Display Data on data bound controls, display data on data grid. Generate Reports Using Crystal Report Viewer.

TEXT & REFERENCE BOOKS :

1. *VB.NET Programming Black Book by steven holzner –dreamtech publications*
2. *Mastering VB.NET by Evangelos petroutsos- BPB publications*
3. *Introduction to .NET framework-Worx publication*
4. *msdn.microsoft.com/net/*
5. *www.gotdotnet.com*

BCA 404 - COMPUTER NETWORKS

UNIT-I
Networking - Needs and Advantages, Network, Types- Client, Server and Peers, introduction to various types of servers. Transmission technology - Signal Transmission-Digital signaling, Analog Signaling, Asynchronous & synchronous Transmission, Wired & Wireless transmission, Base band and Broadband transmission, Transmission Media types- properties & specialty of various media – types, comparative study. Network Topology-Bus, Star, Ring, Star bus, Star ring, Mesh – Features, Advantages and disadvantages of each type.

UNIT–II
Network adapters – working principals, configuration and selection, Network Protocols-Hardware Protocols, software Protocols. The theoretical Network Model - OSI IEEE 802 standards, 802.3, 802.4, 802.5 Real World Networks – Ethernet, Fast Ethernet, Token Rings, FDDI, ATM, ARCnet and AppleTalk.

UNIT–III
Network Scaling-No. of nodes, distance, software, speed, special requirements Connectivity Devices: Modem, Repeater, Hub – Active, Passive and Intelligent, Bridge-Local, Remote, Wireless, Routers-Static and Dynamic, Switches and its types . Brouters and Gateways. Overview of TCP/IP reference model. TCP/IP Protocol suites – Comparision between OSI and TCP/IP Models, Classification of TCP/IP protocols- IP, TCP, UDP, ARP, ICMP. TCP/IP Services Protocols- DHCP, DNS, WINS, FTP, SMTP, TELNET, NFS. IP Addressing and Subnet- IP Address – Class A, B & C. Domain Name Addressing, URL, e-mail address, Subnet & subnet mask.

UNIT–IV
Network building blocks requires for setting up a small LAN using Windows in a office, Hardware & software required, Simple Installation and configuration of Networking under Windows. Using HyperTerminal in Windows, overview and using Network Setup Wizard in Windows, Some basic networking configuration using Windows 95/98/XP/2000/2003 Server and clients, Simple network administration. Setting up Internet Connection Sharing in Windows.

UNIT- V
Network Security : Network security issues, common threats, security barriers in the network pathways, Official levels of computer security, types of security controls, approaches to network security, Ethical hacking. Firewalls – Need and features of firewalls, types of firewall technology- network level and application level, IP packets filter screening routers, limitations of firewalls. Encryption and Decryption – Cryptography, Type of encryptions, encryption keys, single/ secrete/ private key encryption, Public/Private key encryption. Overview of Digital Signature and Digital Certificates technology.

TEXT BOOKS
1. *ames Chellis Charles Perkins, Matthew Strebe **"Networking Essentials:Study Guide MCSE"**, Second Edition, BPB Publications.*
2. *S.K.Basandra & S. Jaiswal, **"Local Area Networks"**, Galgotia Publications*
3. **MCSE Windows 2000 Network Infrastructure Disign**
4. *Andrew & Tanenbaum, **"Computer Network "***
5. *William Stallings, **"Data and Computer Communication"***
6. *Prakash C Gupta**, "Data Communication***

BCA-405 (A) - LINUX OS SERVER

UNIT – I

Linux introduction - Basic Features, Different flavors of Linux. Advantages, Installing requirement, Basic Architecture of Unix/Linux system, Kernel, Shell. Linux File system-Boot block, super block, Inode table, data blocks, How Linux access files, storage files, Linux standard directories.

Installation of Linux system- Partitioning the Hard drive for Linux, Installing the Linux system, System startup and shut-down process, init and run levels. Essential Linux commands Understanding shells, Commands for files and directories cd, ls, cp, md, rm, mkdir, rmdir, pwd, file, more, less, creating and viewing files using cat, file comparisons – cmp & comm, View files, disk related commands, checking disk free spaces.

UNIT–II

Processes in Linux-process fundamentals, connecting processes with pipes, tee, Redirecting input output, manual help, Background processing, managing multiple processes, changing process priority with nice, scheduling of processes at command, cron, batch commands, kill, ps, who, sleep, Printing commands, find, sort, touch, file, file related commands-ws, sat, cut, dd, etc. Mathematical commands- bc, expr, factor, units.

Creating and editing files with vi, joe & vim editor

UNIT–III

Shell programming- Basic of shell programming, Various types of shell available in Linux, comparisons between various shells, shell programming in bash, read command, conditional and looping statements, case statements, parameter passing and arguments, Shell variables, system shell variables, shell keywords, Creating Shell programs for automate system tasks. Simple filter commands – pr, head, tail, cut, paste, sort, uniq, tr. Flter using regular expressions – grep, egrep, and sed. awk programming – report printing with awk.

UNIT–IV

System administration Common administrative tasks, identifying administrative files – configuration and log files, Role of system administrator, Managing user accounts-adding & deleting users, changing permissions and ownerships, Creating and managing groups, modifying group attributes, Temporary disable user's accounts, creating and mounting file system, checking andmonitoring system performance file security & Permissions, becoming super user using su.

UNIT-V

Installation, configuration and managing a simple LAN within an organization using Linux.

Setting up and using telnet server and clients.

Installation and simple configuration of Proxy Server - Squid, Mail server – Sendmail, Web server - Apache, File server and Samba server in linux

VNC server and client setting

TEXTS & REFERENCES BOOKS :

1. UNIX – Concepts & Applications (Third Ed.) – Sumitabha Das, Tata McGraw Hill Publications.
2. Unix for programmers and users (Third Ed.) – Graham Glass & King Ables, Pearson Education India. (Low Prices Edition).
3. Fedora Core 6 Bible

BCA 405 (B) – BUSINESS STATISTICS

UNIT I
Introduction, Definition, Scope, Limitation and importance of statistics, Frequency distribution, Classification and tabulation of data. Measures of central tendency – Mean, Mode and Median

UNIT II
Measures of dispersion and their coefficients, coefficient of skewness – Karl Pearson's and Bowley's method. Analysis of time series, Method of least square and moving average.

UNIT III
Coefficient of correlation – Karl Pearson's, Spearmen's and Concurrent deviation method and their interpretation.

UNIT IV
Index numbers – Fixed base, chain base, cost of living index numbers, Aggregate and family budget method, Fishers Idle Index number.

UNIT V
Diagrammatic and Graphical presentation – Bar, Diagram, Frequency curve, Cumulative frequency curve, One and deo dimensional diagram, multiple diagram, Sub-division and Percentage sub-division bar.

TEXT BOOKS
1. *Statistics – Shukla and Sahaya*

Reference books
1. *Statistics – K N Nagar*

BCA 405 (C) - PRODUCTION MANAGEMENT

UNIT I

Nature and scope of production and Operation Management, Facility location, Types of manufacturing Systems & Layouts, Layout planning and analysis, Material handling principles and equipments.

UNIT II

Line balancing problems, operations decisions-production planning and control in mass production- in batch. Job order Manufacturing, Capacity planning models, process planning Aggregate planning, scheduling.

UNITIII

Maintenance management concepts , work study, method study, work management, work sampling , work environment, Industrial safety

UNIT IV

Material management:- An overview of material management, material planning and inventory control, JIT, Materials planning, Budgeting and material requirement planning, Purchase management, stores management.

UNIT V

Quality Assurance: Acceptance sampling, statistical process control, Total Quality management, ISO 9000, Maintenance management, safety management.

Text Book:

1. Chary, S.N "Production and Operation Management " Tata McGrawHill

Reference Books

1. Buffa E.S. "Modern Production Management" New York John Wiley.

BCA 406

COMPUTER LAB VII : UNIX/ LINUX

List of Experiments:-

1. To Study basic & User status Unix/Linux Commands.
2. Study & use of commands for performing arithmetic operations with Unix/Linux.
3. Create a file called wlcc.txt with some lines and display how many lines, words and characters are present in that file.
4. Append ten more simple lines to the wlcc.txt file created above and split the appended file into 3 parts. What will be the names of these split files? Display the contents of each of these files. How many lines will be there on the last file?
5. Given two files each of which contains names of students. Create a program to display only those names that are found on both the files.
6. Create a program to find out the inode number of any desired file.
7. Study & use of the Command for changing file permissions.
8. Write a pipeline of commands, which displays on the monitor as well as saves the information about the number of users using the system at present on a file called usere.ux.
9. Execute shell commands through vi editor.
10. Installation, Configuration & Customizations of Unix/Linux.
11. Write a shell script that accepts any number of arguments and prints them in the reverse order.
12. Write a shell script to find the smallest of three numbers that are read from the keyboard.
13. Write a shell script that reports the logging in of a specified user within one minute after he/she logs in. The script automatically terminates if the specified user does not login during a specified period of time.
14. Installation of SAMBA, APACHE, TOMCAT.
15. Implementation of DNS, LDAP services,
16. Study & installation of Firewall & Proxy server

Suggested Reading:

1. Venkatesh Murthy, "Introduction to Unix &Shell", Pearson Edu
2. Forouzan, "Unix &Shell Programming", Cengage Learning
3. Sumitab Das,"Unix Concept & Application",TMH
4. Gopalan, Shivaselvan,"Beginners Guide to Unix " PHI Learning
5. Venkateshwavle,"Linux Programming Tools Unveil`ed", BS Publication.
6. Richard Peterson,"Linux Complete Reference",TMH
7. Richard Peterson,"Unix Complete Reference",TMH

BCA 407

COMPUTER LAB VIII : ORACLE

1.

A). Create table with proper Constraints

Customer(custid,cname,birth_date,city, mobileno, fact_id, salary)

factory(fact_id, Fact_name,location)

B). Solve following queries
1) Display all details of customer whose name starts with 'SA'.
2) Display cname in ascending order
3) List the details of customer whose Fact_id situated at 'Nagpur'.
4) List the name of customer whose fact_id no. is 3 or 5.
5) Find the average salary of customer table.

2.

A). Write a PL\SQL block to print following pattern

1

2 2

3 3 3

4 4 4 4

B). Write a PL\SQL block to print odd numbers from 1 to 50

C). Write a PL\SQL block using cursor to display customer name and their factory name

3.

A). Create tables with all Constraints.

Student (PRN, Sname, City, Gender, DOB)

Fees (Sr.no, Pdate, PRN, AmountPaid)

Enter atleast 5 valid record

B). Solve following queries

a) Display all details of students whose city is Pune or Mumbai.

b) Display Sname, City, DOB of students who paid fees more than 20000

c) Find out the total amount of fees.

d) List the name of students whose second letter of name is 'A' or 'S'.

e) List the details of students whose date of birth is 1st July 1985

4. Solve PL-SQL block

A). To accept the number and print sum of digits of that number.

B). Accept two numbers display addition, subtraction, multiplication, division.

C). Write a PL-SQL block to accept the PRN from the user. Display Sname, city, Gender and DOB.

स्वामी विवेकानंद विश्वविद्यालय, सिरोंजा, सागर (म.प्र.)

Swami Vivekanand University, Sironja, Sagar (M.P.)

As per model syllabus of U.G.C. New Delhi, drafted by Central Board of Studies and Approved by Higher Education and the Governor of M.P.

Faculty of Computer Science
Syllabus & Prescribed Books

Subject-Bachelor of Computer Application

B.C.A. Semester
Examination 2016-17
V-VI SEM

कुलसचिव
स्वामी विवेकानंद विश्वविद्यालय, सिरोंजा, सागर (म.प्र.)

COURSEWISE SCHEME
5TH SEMESTER

SUBJECT CODE	SUBJECT NAME	Theory						Practical		Total	
		Paper		CCE		Total					
		MAX	MIN	Max	Min	Max	Min	Max	Min	Max	Min
BCA 501	SOFTWARE TESTING AND PROJECT MANAGEMENT	85	28	15	5	100	33	0	0	100	33
BCA 502	PROGRAMMING WITH JAVA	85	28	15	5	100	33	0	0	100	33
BCA 503	ASP.NET AND C#	85	28	15	5	100	33	0	0	100	33
BCA 504	Elective -II (Refer Table Below)	85	28	15	5	100	33	0	0	100	33
BCA 505	Elective -III (Refer Table Below)	85	28	15	5	100	33	0	0	100	33
BCA 506	COMPUTER LAB IX : JAVA Programming	0	0	0	0	0	0	50	17	50	17
BCA 507	MINOR PROJECT	0	0	0	0	0	0	50	17	50	17

Grand Total = 600

Elective –II
1. BCA 504 (A) - INFORMATION TECHNOLOGY TRENDS
2. BCA 504 (B) – NUMERICAL METHODS
3. BCA 504 (C) - ADVANCED COST AND CORPORATE ACCOUNTS

Elective –III
1. BCA 505 (A) - MATHEMATICAL STATISTICS
2. BCA 505 (B) - MANAGEMENT ACCOUNTING
3. BCA 505 (C) - ECONOMICS AND FINANCIAL MANAGEMENT

COURSEWISE SCHEME
6ᵀᴴ SEMESTER (6 MONTHS PROJECT WORK)

1. Course Code :	BCA	4. Project :	YES
2 . Course Name :	Bachelor Of Computer Application	5. Maximum marks :	500
3. Project Marks :	300	6. Minimum Passing percentage:	50%

SUBJECT CODE	SUBJECT NAME	Theory						Practical		Total	
		Paper		CCE		Total					
		MAX	MIN	Max	Min	Max	Min	Max	Min	Max	Min
BCA 601	MAJOR PROJECT	-	-	-	-	-	-	300	150	300	150
BCA 602	INTERNAL ASSESSMENT	-	-	200	100	-	-	-	-	200	100

Grand Total = **500**

GUIDELINES FOR SUBMISSION OF BCA MAJOR PROJECT

1. All the candidates of BCA are required to submit a project-report based on the work done by him/her during the **MAJOR** project period.

2. THE GUIDE
   The Guide for BCA would be a person having at least MCA/B. Tech/M.Sc(CS)/M.Sc(IT) or equivalent.

3. Number of students in a project group will not be more than three for BCA.

BCA 501 - SOFTWARE TESTING AND PROJECT MANAGEMENT

UNIT - I
Testing basics and Development Models: Principals and context of testing in software production, Usability and Accessibility Testing, Phases of Software Project, Process models to represents different phases, Software Quality Control and its relation with testing, validating and verification, Software Development life cycle models, various development models. White Box Testing: White Box Testing - Static Testing, Structural Testing-Unit code functional testing, Code coverage testing, code complexity testing,. Black Box Testing- What? Why and when to do Black box testing,

UNIT - II
Integration Testing: Introduction and types of integration testing, Scenario testing, defect bash. System and Acceptance Testing- Overview, functional and non-functional testing, Acceptance testing. Overview of some software testing tools: WinRunner, LoadRunner, Test Director. (Some practical should be conducted using these tools)

UNIT - III
Performance Testing- Introduction, factors related to performance testing, methodology for performing testing, Regression Testing, Ad hoc Testing- Overview, Buddy & pair testing, Exploratory testing, Interactive testing, Agile and extreme testing. Testing of Object Oriented Testing – Introduction, Differences in OO testing.

UNIT-IV
Software Project Management: Overview, Software Project Management Framework, Software Development life cycle, Organization Issues and Project Management, Managing Processes, Project Execution, Problems in Software Projects, Project Management Myths and its clarifications. Software Project Scope: Need to scope a software project, scope management process, communication techniques and tools, communication methodology Software Requirement Gathering and Resource allocation: Requirement specifications, SRS Document preparation, Resources types for a software projects, requirement for resources allocation.

UNIT – V
Software Project Estimation: Work Breakdown structure (WBS), steps in WBS, Measuring efforts for a project, techniques for estimation – SLOC, FP, COCOMO and Delphi methods. Project Scheduling: Scheduling and its need, scheduling basics, Gannt Chart, Network scheduling techniques, Pert and CPM Using a Project Management Tool: Introduction to MS Project 2000, Managing tasks in MS Project 2000, Tracing a project plan, creating and displaying project information reports.

TEXT & REFERENCE BOOK :
1. *Software Testing: Principles and Practice By Gopalaswamy and Srinivasan, 817758121x. Publisher, Pearson Education India. ISBN, 817758121x.*
2. *Software Testing Tools: Covering WinRunner, Silk Test, LoadRunner, JMeter and TestDirector with case By Dr. K.V.K.K. Prasad, ISBN: 8177225324, Wiley Dreamtech,*

BCA 502 – PROGRAMMING WITH JAVA

UNIT–I
C++ Vs JAVA, JAVA and Internet and WWW, JAVA support systems, JAVA environment. JAVA program structure, Tokens, Statements, JAVA virtual machine, Constant & Variables, Data Types, Declaration of Variables, Scope of Variables, Symbolic Constants, Type Casting. Operators : Arithmetic, Relational, Logical Assignments, Increment and Decrement, Conditional, Bitwise, Special, Expressions & its evaluation. If statement, if…else… statement, Nesting of if…else… statements, else…if Ladder, Switch, ? operators, Loops – While, Do, For, Jumps in Loops, Labelled Loops.

UNIT–II
Defining a Class, Adding Variables and Methods, Creating Objects, Accessing Class Members, Constructors, Methods Overloading, Static Members, Nesting of Methods. Inheritance: Extending a Class, Overriding Methods, Final Variables and Methods, Final Classes, Finalize Methods, Abstract methods and Classes, Visibility Control.

UNIT–III
Arrays: One Dimensional & two Dimensional, strings, Vectors, wrapper Classes, Defining Interface Extending Interface, Implementing Interface, Accessing Interface Variable, System Packages, Using System Package, Adding a Class to a Package, Hiding Classes.

UNIT–IV
Creating Threads, Extending the Threads Class, Stopping and Blocking a Thread, Life Cycle of a Thread, Using Thread Methods, Thread Exceptions, Thread Priority, Synchronization, Implementing the Runnable Interface.

UNIT–V
Local and Remote Applets Vs Applications, Writing Applets, Applets Life Cycle, Creating an Executable Applet, Designing a Web Page, Applet Tag, Adding Applet to HTML File, Running the Applet, Passing Parameters to Applets, Aligning the Display, HTML Tags & Applets, Getting Input from the User.

TEXT & REFERENCE BOOKS:
1. E. Balaguruswamy, "Programming In Java", 2nd Edition, TMH Publications ISBN 0-07-463542-5
2. Peter Norton, "Peter Norton Guide To Java Programming", Techmedia Publications ISBN 81-87105-61-5

BCA 503 - ASP.NET AND C#

UNIT – I
Overview of ASP.NET framework, Understanding ASP.NET Controls, Applications Web servers, installation of IIS. Web forms, web form controls -server controls, client controls, web forms & HTML, Adding controls to a web form ,Buttons, Text Box , Labels, Checkbox, Radio Buttons, List Box, etc. Running a web Application, creating a multiform web project.

UNIT-II
Form Validation: Client side validation, server Side validation, Validation Controls : Required Field Comparison Range. Calendar control, Ad rotator Control, Internet Explorer Control. State management- View state, Session state, Application state,

UNIT-III
Architecture of ADO.NET, Connected and Disconnected Database, Create Connection using ADO.NET Object Model, Connection Class, Command Class, Data Adapter Class, Dataset Class. Display data on data bound Controls and Data Grid. Database Accessing on web applications: Data Binding concept with web, creating data grid, Binding standard web server controls. Display data on web form using Data bound controls.

UNIT-IV
Writing datasets to XML, Reading datasets with XML. Web services: Introduction, Remote method call using XML, SOAP, web service description language, building & consuming a web service, Web Application deployment.

UNIT-V
Overview of C#, C# and .NET, similarities & differences from JAVA, Structure of C# program. Language features: Type system, boxing and unboxing, flow controls, classes, interfaces, Serialization, Delegates, Reflection.

TEXT BOOKS & REFERENCE BOOKS
1. VB.NET Black Book by steven holzner –dreamtech
2. ASP.NET Unleashed
3. C# programming – wrox publication
4. C# programming Black Book by Matt telles

BCA 504 (A) - INFORMATION TECHNOLOGY TRENDS

UNIT - I

DISTRIBUTED SYSTEMS – Introduction, Distributing the processing and storage Function, Advantage and Disadvantage of Distributed System. E-Supply-Chain components, E-Supply-Chain architecture, Major Trends in E-SCM, Some examples of using ESCM. E-Customer Relationship Management (E-CRM) Customer Relationship management concepts, Data Mining & E-CRM, Some examples of using E-CRM.

UNIT-II

INTRODUCTION TO VIRTUAL REALITY – Introduction, Brief History of virtual reality, Present uses of virtual reality. Artificial Intelligence and Expert system- Concepts of AI & Expert Systems, Building of Expert system, Merits and Demerits of Expert system, Application of Expert system and AI.

UNIT-III

DATAWAREHOUSE AND DATA MARTS – Introduction, Advantages of data warehouse, Datawarehouse components, Summarised data, Current details, System of records, Integration and transformation programs, Data mining, Interface with other warehouse DATAMINING – Introduction, Evolution of data mining, Datamining –verification vs. discovery, Advantages of datamining, Technologies used in dataminnig

UNIT – IV

Mobile Commerce Introduction, Growth, Success stories of Mobile commerce, Technologies for mobile commerce, WAP & its basics, WAP Programming model, other wireless technology, diffenent generations in wireless communications, GSM V/s CDMA security issues, M-Commerce in India. GEOGRAPHIC INFORMATION SYSTEM (GIS) - Components of a GIS - Hardware, software, data, People, Methods, Working of GIS, Geographic references, Vector and Raster Models, Data for GIS, GIS and Related Technologies, Desktop Mapping, CAD, Remote sensing and GPS, DBMS

UNIT - V

Introduction and basic concepts of modern communication and telephony technology: CDMA, WLL, GSM, VOIP, Blue-tooth, Wi-Fi.

TEXT AND REFERENCE BOOKS :

1. Fundamentals Of Information Technology by Alex Leon & M. Leon, Vikas Publications, New Delhi.

2. Frontiers of Electronic Commerce, By- Kalakota, Ravi ; Stone, Tom ; Whinston, Andrew B, Addison Wesley Publishing Co , ISBN 8178080575

BCA 504 (B) – NUMERICAL METHODS

UNIT –I

Representaion of a computer on a computer, difference between floating point and real arithmatics,different types of errors, Error in the approximation of a function, Error in series approximation.

UNIT-II

Solution of algebric and trancendental equation using bisection method,regularfalse method ,newtonraphson method. Solution of simultaneous linear equations using gaussb limination method, jacobi'siterative method, gaussseidel iterative method.

UNIT-III

Interpoiation: finite difference and operators,newton forward,newton backward, games forward,games backward,stirling'sinterpolation divided difference formula

UNIT-IV

Numerical differenciation , formula for derivatives maxima and minima of a tabulated Numerical integration: newton-cotes formula, tapezoidal rule, simpson's rule, weddle's rule.

UNIT-V

Solution of ordinary differential equation using picard's method,taylor'series method, euler,s method, modified euler's method, runge_knutta method, predictor-corrector method.

TEXT AND REFERENCE BOOKS :

1. Numerical methods in engg & science –B.S.Grawal
2. Numerical method –S.S Sastry

BCA 504 (C) - ADVANCED COST AND CORPORATE ACCOUNTS

UNIT I
Nature and significance of cost accounting, Analysis and classification of cost, Unit costing – Cost sheet and cost statement. Reconciliation of cost and financial accounts.

UNIT II
Process costing – Normal and abnormal wastage, Joint and by product. Operating costing.

UNIT III
Standard costing – Introduction, meaning, requisites, variance analysis – Material and labour variance.

UNIT IV
Corporate Accounting – Issue of shares, Profit prior to incorporation, Financial account of company.

UNIT V
Valuation of Shares and valuation of Goodwill.

TEXT AND REFERENCE BOOKS :
1. Cost Accounts - M L Agrawal
2. Corporate Accounts - S M Shukla
3. Cost Accounts - Jain & Narang

BCA 505 (A) - MATHEMATICAL STATISTICS

UNIT-I
Frequency distributions, Histograms and frequency polygons , Measures of central tendency : Mean, Mode, Median, Dispersion, Mean deviation and standard deviation.

UNIT-II
Moments, Skewness, kurtosis, Elementary probability theory: Definition, conditional probability, Probability distribution, mathematical expectation

UNIT –III
Theoretical distribution: Binomial , poisson and Normal distribution , Relation between the binomial, poisoned Normal distribution. Correlation and regression, liner correlation, measure of correlation, least square regression lines.

UNIT IV
Curve fitting: Method of least square, least square line, least squares Parabola. chi-square text :definition of chi-square, signification test : contingency test, coefficient of contingency

UNIT-V
Basic of sampling theory: Sample mean and variance, students t-test, test of Hypotheses and significance, degree of freedom, Z-test, small and large sampling, Introduction to monte carlo method.

TEXT AND REFERENCE BOOKS :
1. Mathematical statistics: J.N .Kapoor and H.C. Saxena
2. Mathematical statistics: M.Ray and H. Sharma

BCA 505 (B) - MANAGEMENT ACCOUNTING

UNIT I
Meaning and definition of management account, Various systems of management of accounting, Nature and scope, tools and techniques, financial statement, Analysis and interpretation of financial statement.

UNIT II
Ratio analysis – Object, classification of ratio, Method of accounting ratio. Return on capital employed.

UNIT III
Fund flow and cash flow statements, object, Methods of preparation and techniques.

UNIT IV
Business Budget and Budgetary control – objects and advantage, types of budget, Cash budget, Flexible Budget, Master Budget, Production Budget. Capital expenditure, Project appraisal and forecasting.

UNIT V
Pricing decision, Marketing decision and marginal costing system, Break Even Analysis and its use. Fixed and variable expenses, P/V ratio.

TEXT AND REFERENCE BOOKS :
1. Management Accountancy – S P Gupta
2. Management Accountancy J K & R K Agrawal

BCA 505 (C) - ECONOMICS AND FINANCIAL MANAGEMENT

UNIT I
Nature and Scope of Financial Management, Aims and objectives of Corporate Financial decisions.

UNIT II
Time value of money, Instruments of long term Finance, Instruments of Short term Finance, Cost of different sources of raising capital.

UNIT III
Cost of different sources of raising capital, Cost of Capital, Cost of Debt, Cost of preference Shares, Cost of Equity, Weighted average cost of capital, Average and marginal Cost of Capital.

UNIT IV
Tools and techniques, Ratio Analysis: Current Ratio, Depth Equity ratio, Net operating profit Ratio, Stock turnover ratio, return on investment ratio, Debtors and creditors turnover ratio, Fund flow and Cash flow analysis.

UNIT V
Management of Working Capital Cash, Receivables and Inventory Management, Operating and financial leverage.

TEXT AND REFERENCE BOOKS :
1. Khan and Jain, "Financial Management and policy ", TataMcGrawHill
2. I.M.Pandey, "Financial Management", Vikas Publication.
3. Archer, Stepen H., "Financial Management", New york, JhonWiley.

BCA 506 - COMPUTER LAB IX : JAVA Programming

List of Program to be perform

1. Installation of J2SDK
2. Write a program to show Scope of Variables
3. Write a program to show Concept of CLASS in JAVA
4. Write a program to show Type Casting in JAVA
5. Write a program to show How Exception Handling is in JAVA
6. Write a Program to show Inheritance
7. Write a program to show Polymorphism
8. Write a program to show Access Specifiers (Public, Private, Protected) in JAVA
9. Write a program to show use and Advantages of CONTRUCTOR
10. Write a program to show Interfacing between two classes
11. Write a program to Add a Class to a Package
12. Write a program to show Life Cycle of a Thread
13. Write a program to demonstrate AWT.
14. Write a program to Hide a Class
15. Write a Program to show Data Base Connectivity Using JAVA
16. Write a Program to show "HELLO JAVA " in Explorer using Applet
17. Write a Program to show Connectivity using JDBC
18. Write a program to demonstrate multithreading using Java.
19. Write a program to demonstrate applet life cycle.
20. Write a program to demonstrate concept of servlet.

BCA 507 - MINOR PROJECT

GUIDELINES FOR SUBMISSION OF BCA MINOR PROJECT

4. All the candidates of BCA are required to submit a project-report based on the work done by him/her during the minor project period.

5. THE GUIDE

   The Guide for BCA would be a person having at least MCA/B. Tech/M.Sc(CS)/M.Sc(IT) or equivalent.

6. Number of students in a project group will not be more than three for BCA.