BCA -I Semester-I
SANSKRIT
PAPER NO-1

Credits-04   **Total Marks 100**

1. Neetishatakam (Complete)

Theory: 80 Marks
Internal Assessment : 20 Marks

Reference Books:
Neetishatakam – ChaukhambaPrakashan, Varanasi. Neetishatakam – Prasad Prakashan, Pune. SuyogPrakashan – Amravati.

BCA -I Semester-I
COMMUNICATION ENGLISH
PAPER NO-2

Credits-04   **Total Marks 100**

UNIT- I: **25 Marks (credit - 01)**
Comprehension, Enriching Vocabulary, Single Word For a Group of Words, Words Frequently Misspell.

UNIT- II: **25 Marks (credit - 01)**
Business Letter Writing, Getting to the point, Choice of Words, Punctuation, E-mail etiquette. Enquiries and replies - Placing and fulfilling orders - Complaints and follow-up - Sales letters - Circular letters - Application for employment and resume.

UNIT- III: **25 Marks (credit - 01)**
Nature, Scope, and Functions of Communication: Definition, Objectives, Purpose of Communication, Communication Process, Sender's Thoughts, Encoding, Decoding, Feedback Loop, Noise Channels of Communication, Informal Channels Of Communication, Barriers to Effective communication.

UNIT- IV: **25 Marks (credit - 01)**
Textbook entitled 'Prism: Spoken and Written Communication, Prose & Poetry' published by Orient Longman

1) The Bet – Anton Chekov

2) Socrates and the Schoolmaster – F. L. Brayne

3) An Astrologer's Day – R. K. Narayan

4) The Gift of the Magi – O' Henry

5) With the Photographer – Stephen Leacock

Theory: 80 Marks
Internal Assessment : 20 Marks

Reference Books:
1. Oxford Practice Grammar – John Eastwood (Oxford)
2. Basic Business Communications – Rober M. Archer
4. English Grammar – Wren in & Martin
5. Effective Business Communication – Herta Murphy Chorles Perk (Tata McGraw Hill)
6. Business Communication: Urmila Rai, S.M. Rai- (Himalaya Publishing House)
7. Business Correspondence & Communication Skill- Kapur (S. Chand Co.)
8. A Guide to Business Correspondence – Kapoor A. (S. Chand & Co.)

BCA -I Semester-I
COMPUTER FUNDAMENTALS
PAPER NO-3

Credits-04   **Total Marks 100**

UNIT- I: 25 Marks (credit – 01)
Basic Components of Digital Computers: Block Diagram. CPU: Functions of Each Unit: Primary,Memory, ALU and CU, Instruction format. Bus: Data, Control and Address Bus Number Systems: Binary, Octal, Decimal, Hexa Decimal, Their Conversions, Binary Arithmetic.ASCII, BCD, EBCDIC. Language Evolution : Generation of Languages : Machine, Assembly, High Level Languages.Characteristics of Good Language Translators : Compiler, Interpreter and Assembler. Source and Object Program.

UNIT - II : 25 Marks (credit - 01)
Memory: Static & dynamic, RAM, ROM, PROM, EPROM, EEPROM, flash and Cache. Storage Devices: Hard Disk, Zip Disk and Optical Disk. Pen Drive, Blu Ray

UNIT - III : 25 Marks (credit - 01)
Input Devices: Keyboard, Mouse, Light Pen, Touch Screen, Voice Input , MICR, OCR, OMR, Barcode Reader and Flatbed Scanner.Output Devices: VDU, Printers: Dot Matrix, Laser and Inkjet. Plotters: Drum,Flat-Bed and Inkjet.

UNIT - IV : 25 Marks (credit - 01)
Network: Network terminology, Topologies : Linear, Circular, Tree and Mesh.Types of Networks: LAN, WAN, MAN. Repeaters, Bridge, Routers, Broutersand Gateway.Modem for Communication between pc's, Wi-Fi network, Introduction of Bluetooth and Infrareddevices. Network protocols. Architecture :Peer-to-Peer, Client/Server.

Theory: 80 Marks
Internal Assessment : 20 Marks
Practical –I :25 Marks
Internal: 15 Marks
External :10 Marks

Reference Books:
1.Information technology concepts by Dr. Madhulika Jain, Shashank & Satish Jain, [BPB Publication, New Delhi.]
2. Fundamentals of Information Technology By Alexis And Mathews Leon [Leon Press, Chennai &Vikas Publishing House Pvt Ltd, New Delhi]

BCA -I Semester-I
C PROGRAMMING
PAPER NO-4

Credits-04   **Total Marks 100**

UNIT- I: 25 Marks (credit – 01)

Programming Structure :Sequence, Selection, Iteration and Modular. Problem Solving techniques.Development Tools: Algorithm, Flowcharts and Pseudo code (Definition and its characteristics),Developing Algorithm and Drawing flowcharts

UNIT- II :25 Marks (credit - 01)

C Character set, Tokens, Identifier, Keywords, Variables, Data types, Qualifiers. Operators and Expressions: Arithmetic, Relational, Logical, Bit-Wise, Increment, Decrement, Conditional and Special operators. typedef, Type Conversion, Constants, Declaring Symbolic Constants, Character Strings, Enumerated Data Types, Operator Precedence and Associativity. Library functions. : Maths, string handling Functions. Control Structure: Compound Statement, Selection Statement:if, if-else, Nested if, switch. Iteration statement: for, while, do..while, Nested loops,Jump statement: break, continue, goto. (Special emphasis on problem solving)

UNIT- III:25 Marks (credit - 01)

Arrays: Need, Types: Single and Two Dimensional Array.Strings: Strings Manipulation, Arrays of Strings, Evaluation order,Function: Function Components, Return Data type, Parameter Passing, Return by Reference, Default Arguments, Recursive Functions, Arrays with Functions, Storage Classes.(Special emphasis on problem Solving)

UNIT- IV: 25 Marks (credit - 01)

Structure: Declaration, Definition, Accessing structure members,Initialization, Nesting of Structures.Union: Unions, Differences between Structure and Union ,Pointer: Introduction, Address Operator (&), Pointer variables, Void pointers, Pointer Arithmetic,Pointers to Pointers.File handling: Hierarchy of File Stream Classes, Opening & closing a file, Testing for errors, File Modes, File pointers and their manipulations, Sequential Access, Random Access, Command Line arguments.

Theory: 80 Marks
Internal Assessment : 20 Marks
Practical –I :25 Marks
Internal: 15 Marks
External :10 Marks

Reference Books:
1.The Art of programming through flowcharts & algorithm by Anil B. Chaudhari
Firewall Media, Laxmi publication, New Publication.
2.Programming in C by E. Balagurusamy TMH Publications.
3.C Programming-KernighenRitche
4.Programming with C – Y. Kanetkar.
5.C Programming – Holzner, PHI Publication.
6.Programming in C – Ravichandran

BCA -I Semester-I
OPERATING SYSTEM
PAPER NO-5

Credits-04   **Total Marks 100**

UNIT- I: 25 Marks (credit – 01)
Structure of Operating System, Operating System functions, Characteristics of Modern OS. Process, Management: Process states, Creation, Termination, Operations on Process, Concurrent process,Processes Threads, Multithreading, Micro Kernels CPU Scheduling: Schedulers, Scheduling Methodology, CPU Scheduling Algorithm: FCFS, SJF, RR, Priority Scheduling.

UNIT – II: 25 Marks (credit - 01)
Performance comparison : Deterministic Modeling , Queuing analysis, Simulators. Deadlock and Starvation: Resource Allocation Graph, Conditions for Dead Lock, Dead Lock Prevention, DeadLock Detection, Recovery from Deadlock.

UNIT - III: 25 Marks (credit - 01)
Memory Management: Logical Vs. Physical Address Space, Swapping, Memory Management Requirement, Dynamic Loading and Dynamic Linking, Memory Allocation Method: Single Partition allocation, Multiple Partitions, Compaction, paging, segmentation, Segmentation with paging. Protection.

UNIT - IV: 25 Marks (credit - 01)
I/O Management: I/O hardware, I/O Buffering, Disk I/O, Raid, Disk Cache. File Management: File Management system, File Accessing Methods, File Directories, File Allocation Methods, FileSpace Management, Disk Space Management, Record blocking. Protection Mechanisms: Cryptography, Digital Signature, User Authentication.

Theory: 80 Marks
Internal Assessment : 20 Marks
Practical –I :25 Marks
Internal: 15 Marks
External :10 Marks

Reference Books:
1.Operating Systems by P. BalakrishnaPrasad [Scitech Publication]
2.Operating System Concept :Silbershaz (Addision Education)
3.Operating Systems - H.M. Deitel - Addision Wesley.
4.Operating Systems- John J. Donoven.
5.Operating System : A.S.Godbole (TMH)
6.Modern Operating Systems : Tenenenbaum (Pearson Education)
7.Operating System : Peterson.

Credits-04   **Total Marks 100**

UNIT- I: 25 Marks (credit – 01)

Introduction to windows Operating System Advantages of windows operating system, using different windows applications simultaneously, operating with windows, GUI, use of help features, starting an application, essential accessories, creating shortcuts, windows explorer, control panel, my computer, my documents, recycle bin, finding folders and files, changing system settings, system tools, use of run command, setting peripherals, drivers, editing graphics in windows, new features in windows XP/Vista versions.

UNIT-II :- 25 Marks (credit - 01)

Introduction, basics, starting Word, creating document, parts of Word window, mouse and keyboard operations, designing a document; Formatting- selection, cut, copy, paste; Toolbars, operating on text; Printing, saving, opening, closing of document; Creating a template; Tables, borders, pictures, text box operations; Mail Merge.

UNIT -III:- 25 Marks (credit - 01)

Introduction to MS EXCEL, navigating, Excel toolbars and operations, Formatting; copying data between worksheets; entering formula, chart creation; data forms, datasort; Functions in excelround( ), SQRT ( ), MAX( ), MIN( ), AVERAGE( ), COUNT( ), SUMIF( ), SUMIF( ), ABS( ), ROMAN( ), UPPER( ), LOWER( ), CELL( ), TODAY( ), NOW( )**.** Introduction to MS POWER POINT Working with Power Point Window, Standard Tool Bar, Formatting tool bar, Drawing tool Bar, Moving the Frame, Inserting ClipArt, Picture, Slide, Text Styling, Send to back, Entering data to graph, Organization Chart, Table, Design template, Master Slide, Animation Setting, Saving and Presentation , auto Content Wizard.

UNIT -IV :- 25 Marks (credit - 01)

Google suite: Getting Started with Google G Suite, Navigating Google G Suite, Communicate Using Gmail, Storing Documents Using Google Drive: Adding Folders and Files, Managing Folders and Files, Collaborating Using Google Docs, Slides, and Drawings, Collaborating Using Google Sheets and Forms, Communicating Using Google Hangouts, Managing Schedules Using Google Calendar, Collaborating Using Google Sites: Creating and Editing a Google Site, Sharing and Publishing a Google Site

Theory: 80 Marks
Internal Assessment : 20 Marks
Practical –I :25 Marks
Internal: 15 Marks
External :10 Marks

Reference Books:
1. MS Office XP for Everyone By Sanjay Saxena (VikasPubli, Noida)
2. MS-Office 2000(for Windows) By Steve Sagman A First Course in Computers – Sanjay Saxena

BCA -I Semester-I
FUNDAMENTALS OF STATISTICS
PAPER NO-7

Credits-04   **Total Marks 100**

UNIT- I: 25 Marks (credit – 01)
Introduction - Definition of Statistics, Importance and scope of Statistics, Limitations of statistics, Distrust of Statistics. Statistical Data Collection - Primary and Secondary data, Methods of Collecting Primary data, Sources and Secondary Data, Census and Sample Investigation. Presentation of statistical Data - Classification, Tabulation, Frequency Distribution, Diagrams and Graphs.

UNIT- II:25 Marks (credit - 01)
Measures of Central Tendency - Frequency Distribution, Continuous Frequency Distribution, Graphic Representation of a Frequency Distribution Average or Measures of Central Tendency or Measures of Locations, Requisites for an ideal Measure of Central Tendency Arithmetic: Mean Median, Mode, Geometric Mean and Harmonic Mean, Weighted Average, Relationship amongst different Averages

UNIT- III: 25 Marks (credit – 01)
Measures of variation: variance, standard deviation, interquartile range ,Robustness , Histograms and boxplots , Contingency tables , Row and column percentages ,Relative risk, difference between proportions, and odds ratios Relationships in r x c tables. . Scatterplots, Measures of correlation ,Simple linear regression

UNIT- IV: 25 Marks (credit – 01)
Hypothesis Testing ,The logic of hypothesis tests ,Translating a research question into null and alternative hypotheses , p-values; Type I and Type II errors ,Interpretation of statistical results ,Association vs. casual connection , Description of a sample vs. inference about a population ,Statistical significance vs. practical significance ,Common two-sample tests ,For a difference between proportions ,For a difference between means , Mann-Whitney-Wilcoxon Test ,Paired-sample tests , Paired-sample t-test ii. Wilcoxon signed-rank test e. Tests for contingency tables , Fisher's Exact Test for 2x2 tables , Chi-square test

Theory: 80 Marks
Internal Assessment : 20 Marks

Reference Books:
 1.SSastry Introduction to Numerical Analysis
 2.Y. Rajaraman, Computer Oriented Numerical Methods - Prentice Hall Publication
 3.Gupta and Kapoor Fundamental of Mathematical Statistics
 4.Brian Flowers Introduction to Numerical Methods in C++ By. (Oxford)
 5.E. Balaguruswamy, Numerical Methods - Tata McGraw Hill Publication
 6.Srimanta Pal Numerical Methods (Oxford)
 7.KSankara Rao Numerical Methods for Scientists & Engineers [PIlI].
8.Manish Goyal Computer Based Numerical And Statistical Techniques (Laxmi)