SARDAR PATEL UNIVERSITY
Course: BCA – 101 : Communication Skills in English
Effective from :June 2003

No. of Credit : 2

No. of Lectures per week: 2
External Marks: 60
Internal Marks : 30
Total Marks :90

University exam duration 2 hours.

Unit-I	**Reading** - Presentation of Good Posture - Butterflies in Jeopardy - The Family Group: The Extended and the Nuclear Family - Diseases of Civilisation - The Housefly - The Living World - Reasoning of Animals - The Organisation of Social Life - Animal Language - The Relative influence of Heredity and Environment - Temperature Regulation - General Objectives of the United Nations Organisation - A Child, A Home – and Love - The Handicapped: Hidden no longer
Unit-II	**Writing – 1** - Prefixes/Suffices - Phrasal verbs & Idioms - Synonyms and antonyms - One word substitutes - Registers
Unit-III	**Writing – 2** - Paragraphs, developing points/ideas - Formal and Informal Letters (applications, invitations etc)
Unit-IV	**Writing – 3** - Answering questions, Summary, Notes based on the prescribed text: "**Corridors to Communication.**"

Books Prescribed

1. David Jolly: Writing Tasks: AN authentic task approach to individual writing needs, Cambridge: Cambridge University Press. 1988
2. Champa Tickoo and Jaya Sasikumar: Writing with a Purpose, Chennai: Oxford Univeristy Press. 2000
3. Ranu Vanikar: "Corridors to Commumnication", Hyderabad Orient Longman. 1984 (Only Ten Units)

SARDAR PATEL UNIVERSITY
Course: BCA – 102 : Computer Organization
Effective from :June 2003(Revised 2006)

No. of Credit : 3

No. of Lectures per week: 3
External Marks: 80
Internal Marks : 40
Total Marks :120

Unit-I	**Introduction to Number Systems:** Introduction to number systems • Binary • Octal • Decimal • Hexadecimal Concersions: • Binary • Octal • Hexadecimal Arithmetic(Addition, Subtraction) Radix Complement method Radix-1 complement method Character Codes (ASCII, EBCDIC, BCD) Representation of Numbers: (Integer) • Signed Magnitude • 1's Complement, • 2's Complement, • Excess notation Error Detection and Correction codes Parity bit method Hemming code method
Unit-II	**Basic Gates, Multiplexer, Flip-Flop, Decode, Encoder** Logic Gates: • AND, OR, NOT • NAND, NOR, XOR **Multiplexers** • 8 to 1 multiplexer • 16 to 1 multiplexer, Nibble multiplexer **Demultiplexers** • 1 to 8 demultiplexer • 1 to 16 demultiplexer **Decoders** • 1 of 16 decoder • BCD to decimal Decoder • Seven segment Decoders **Encoders** Decimal to BCD Encoder Half Adder, Full Adder Half Subtractor, Full Subtractor Binary Adder 2's Complement Adder and Subtractor **Flip-Flops** • RS Flip Flop : NOR and NAND Latch • D latch with time diagram

Unit-III	**Processor: Functions and components** Instruction Execution cycle CPU Organization: Data path of a atypical Von-Neumann machine Functioning of a processor of hypothetical computer Parelle Instruction Exection, Categories of Parallel Machines Array Processors, Multi- functioning units Pipeline Machines Multiprocessors Immediate Addressing, Direct Addressing Register Addressing, Indirect Addressing Indexing, Stack Addressing
Unit-IV	**SAP-1 Architecture** SAP-1 Architecture Instruction Set: LDA, ADD,SUB, OUT,HLT Programming SAP-1, Fetch Cycle, Execution Cycle MChine and Instruction cycle, SAP-1 Micro program Microprogramming
Unit-V	**Overview of I/O and Memory devices** Overview of I/O Devices • Hard disk • Floppy disk • CD ROM (Introduction, Advantages and Disadvantages) • Introduction to RAM,ROM,PROM,EPROM,EEPROM) Printers: • Dot Matrix (Fig. On page 69 Ref . Book – 1) • Inkjet • Laser-jet (Fig. on page 105 Ref. Book-2) VDU, Mouse,Keyboard Scanner Plotter OCR (MICR, Barcode Reader)
Unit- VI	**Operating System** Introduction to Operating System Functions Operating System Introduction to various types of OS: Time Sharing Real Time Distributed Systems Disk Operating System (DOS) – Functions Internal DOS Commands: Dir, Date, Prompt(pg). Copy, Del, Ren, Cd, Md, Rd External DOS Commands: Chkdsk, Scandisk, Format, Move, More, Attrib Windows Operating System (Win- 98) Introduction Working with Windows Operations on Files and Folders

REFERENCE BOOKS:

1. Structured Computer Organization, 3rd edition: A.S.Tanenbaum
2. Introduction to computers and communication: D. Ravichandran
3. Fundamentals of Computers, 3rd edition: V. Rajaram
4. Computer Fundamentals: P. K. Sinha
5. Digital Computer Electronics: 3rd edition: Marvino Brown
6. Digital Principles and Applications, 4th edition: Malvino and Leach.

SARDAR PATEL UNIVERSITY
Course: BCA – 103 : Discrete Mathematics
Effective from :June 2003

No. of Credit : 3

No. of Lectures per week: 3
External Marks: 80
Internal Marks : 40
Total Marks :120

University exam duration 3 hours.

Unit-I	**Sets** Set operations, Algebra of sets, Finite sets and counting principle, Classes of sets, Power sets, Mathematical induction, Symmetric difference, Functions, Composition of functions, One-to-One, onto and invertible functions, Recursively defined functions, Cardinality and cardinal numbers
Unit-II	**Vectors and Matrices** Vectors in IR^n, Dot product and norm, Matrix addition and scalar multiplication, Matrix multiplication, Transpose of a matrix, Square matrices, Invertible matrices, Special types of square matrices – diagonal, upper and lower triangular, Symmetric, Skew symmetric Orthogonal matrices: Determinants of order up to three and Cramer's rule
Unit-III	**Algebric System** Operations and semi groups, Groups and subgroups, Group homomorphism, Rings, Integral domains, Fields, Polynomials over a field
Unit-IV	**Graph Theory** Graph and multigraph, Degree of a vertex, Pathsm Connectivity Subgraphs, Connected componenets, Cut points, Bridges, Traversable multigraphs, Matrices and graphs
Unit-V	**Planar Graphs and Trees** Planar graphs, Maps and regions, Euler's Formula, Nonplaner graphs, Coloured graphs, Colours and maps, trees
Unit-VI	**Combinatorial Analysis** Counting principle, Binomial coefficients, Permutations and combinations, Ordered and unordered partitions, Tree diagram

Reference Books:

1. S. Lipshutz and Marc Lars Lipson : Discrete – Mathematics, Schaum's series (International edition 1992).
2. Vinay Kumar : Discrete Mathematics : (BPB Publication First edition – 2002)

SARDAR PATEL UNIVERSITY
Course: BCA – 104 : Introduction to Programming in C
Effective from :June 2003

No. of Credit : 3

No. of Lectures per week: 3
External Marks: 80
Internal Marks : 40
Total Marks :120

University exam duration 3 hours.

Unit-I	**Concept of Algorithm and Flow Chart Development** - Requirement (Needs) of Algorithm and flow chart, definition - Symbols used to draw flow chart - Typical (Primitive) examples of flow chart and algorithms
Unit-II	**Language Fundamental** - Generation of computer languages - High – Low level languages - Translator, Machine Language - Editors and detail about any one of the editor (T.C)
Unit-III	**Logic Development** - Problem Analysis - Variables, Expressions and its manipulation - Data types in High level language - Operators used for calculation - I/O statements, Assignment statement
Unit-IV	**Structured Programming and Advance Computing** - Control Strategies, Condition and Loop Statements IF…ELSE structure, SWITCH structure FOR loop, WHILE loop, DO…WHILE loop - Method of Structured Programming, Subroutines Functions and procedures
Unit-V	**Complex Data Types** - Arrays - String Handling - Structure - Union
Unit-VI	**Pointers** - Introduction to Pointers Pointer to Array, Pointer to Structure, Pointer to function, Pointer to structure array, Pointer to Pointer, Pointer Arithmetic, Array of pointers, Pointers and Recursion (Factorial, Fibonacci Series) - Storage Memory Malloc, calloc, alloc, realloc, free - Storage Classes Auto, static, register, extern

Reference Books:

1. E Balagurusamy : Programming in Ansi C, TMH, 2nd Edition
2. Yashwant Kanetkar : Understanding Pointers in C, BPB, 3rd Edition
3. Mulish Cooper : The Spirit of C, Jaico Pub. House, 19th Edition-1999

SARDAR PATEL UNIVERSITY
Course: BCA – 105 : Database Management System
Effective from :June 2003

No. of Credit : 3

No. of Lectures per week: 3
External Marks: 80
Internal Marks : 40
Total Marks :120

University exam duration 3 hours.

Unit-I	**Database Management System** - Basic Concepts - Data, Information, Field, Record, Database File, Database, DBMS, Primary Key, Foreign key - Drawbacks of Traditional File - Advantages and Disadvantages of DBMS - Components of DBMS - Structure of DBMS - Database Life Cycle
Unit-II	**Data Models** - Data Models - E-R Modeling - Entity, Attribute, Relationship & Types, Mapping Cardinality, Membership Class of the entity type, Rules of drawing ER Model - Relational Data Model : Concept, Example, Advantages, Disadvantages - Normalization : 1NF, 2NF, 3NF
Unit-III	**Database Management System (Foxpro)** - Creation of Database file - Listing contents of Database file - Searching for information - Editing data - Replacing data - Deleting Data - Modify structure of Database file - Utility Commands :COPY to <file>, APPEND From<file> - Mathematical Commands
Unit-IV	**Programming & Built in Functions** - Creation, Execution & Modification of Command files - Decision Making and loops - Sorting and indexing
Unit-V	**Built in Functions** - Mathematical, String, Date & Time Functions - Setting Environmental Commands
Unit-VI	**Advanced Features** - Procedure Files - Arrays - Menu Creation - Handling & Linking Multiple Database Files: - Reports and Labels

Reference Books:

1. Desai Bipin C :An Introduction to Database Systems, West Publishing Co. 1990
2. R.K.Taxali :Programming in Foxpro 2.5, BPB Publication
3. Henson & Henson : Database Management and Design

SARDAR PATEL UNIVERSITY
Course: BCA – 106 : Computer Application in Business
Effective from :June 2003

No. of Credit : 3

No. of Lectures per week: 3
External Marks: 80
Internal Marks : 40
Total Marks :120

University exam duration 3 hours.

Unit-I	**Introduction to Word processor, Spreadsheet and presentation tools.** - PC Software classification - Usage of word processor, spreadsheet and power point - Formatting of text and paragraph - Mail merge features - Tables: Creation, cells split and merge, functions :-sum,avg,min,max - Options of print window - Types of views for power point
Unit-II	**Advance Spreadsheet features** - Formatting of rows/columns - Hide, unhide, delete, insert, copy, paste, resize. - Functions : syntax and meaning of : Avg, count, max, min, sum, product, power, int, round, trunk. - String:- Len, upper, lower, mid - Logical :-If, and, or , not - A/C :-FV,PV,DB,DDBPMT, RATE - Macro facilities and charts - Intro. To pivot table and protection for sheet and book security on file level
Unit-III	**Introduction to Business Application** - Meaning and objectives of Bookkeeping and Accountancy - Accounting terminologies - Types of transactions : cash, credit and exchange - Principle of Double Entry - Types of Accounts :Personal, Real and Nominal - Rules for Debit and Credit - Accounting Concepts ad Conventions
Unit-IV	**Accounting process** - Journal - Subdivision of Journal : Purchase Book, Sales Book, Returns Book, And Three Columnar Cash Book. - Ledger Posting - Trial balance : Meaning, Purposes, Format and Examples
Unit-V	**Final Accounts and Depreciation Accounting** **(A) Final Accounts of Sole Traders including** - Trading Account - Profit and Loss Account - Balance Sheet - Adjustment entries for closing stock, depreciation, outstanding expenses, prepaid expenses, accured income, incomereceived in advance, bad debts and bad debts reserve only. - Format of company Balance Sheet in Horizontal from excluding examples **(B) Depreciation Accounting:** Concepts, Methods : Straight Line Method, Reducing Balance Method, Sum of the years Digits Method.
Unit-IV	**Inventory, Sales and Distribution** (A) Inventory :Meaning of Inventory , Economic Order Quantity (EOQ)

	System, Re-Order Quantity System, Inventory Levels :Ordering Level/Re-Order Level, Minimum Level, Maximum Level, Average Stock level, Inventory Valuation Methods : Average, Weighted Average, LIFO, FIFO.(Theory Only) (B) Sales and Distribution: Meaning, importance and channels of distribution. Demonstration of any accounting software.

Reference Books:

1. Naheshgwari S. N. : Introduction to Accounting, Vikas Pub. House 1986.
2. R.L. Gupta : Principles and practices of accounting
3. Rana & Dalal : Advances Accounting and Auditing :III Sudhir Prakashan Ahmedabad.
4. J.C.Gandhi :Marketing : A managerial Introduction Tata McGraw Hill Publishing CO. Ltd. New Delhi

SARDAR PATEL UNIVERSITY
Course: BCA – 107 : Practical Based on BCA-104
Effective from :June 2003

No. of Credit : 3

No. of Lectures per week: 6
External Marks: 80
Internal Marks : 40
Total Marks :120

University exam duration 3 hours.

These are the sample definitions:

Draw flow chart & C programs for the following:

1. To prepare a cup of tea.
2. To open a Bank Account.
3. To purchase a railway ticket for Bombay (from Anand)
4. To find maximum from the given 3 numbers.
5. To find simple interest.
6. To read three sides of a triangle and print whether it will form a triangle or not
7. To find the solution of a quadratic equation.
8. To find out N! (Factorial of N)
9. To find out minimum from N numbers.
10. Top find whether given number os prime or not.
11. To print the N terms of Fibonacci series (i.e. 1,1,2,3,5,8,11…)
12. To read a number & check whether it is a palindrome or not.
13. To find out value of ${}^{N}C_{R}$.

To find the sum of the following series :

14. Sum = 1+3+5+7…up to N terms.
15. Sum = 5-10+15-20+25… up to N terms.
16. Sum = 1+1+2+3+5+8+13…up to N terms.
17. Sum = $1^2+2^2+3^2+4^2+5^2$…up to N terms.
18. Sum= 1!+2!+3!+4!...up to N terms.
19. To read marks of three subjects and find the percentage of it. Also , print the appropriate class. Here,
    If percentage <40 then class is “pass”
    If 40 <= percentage < 48 then class is “pass”
    If 48 <=percentage <60 then class is “second”
    Else class is “first”
    To find the value of Sum for the following
20. SUM = X + X/2! + X/3! + X/4!...up to N terms.
21. Sum = 1 – ½ + 1/3 – ¼ + 1/5… up to N terms.
22. To find the sum of the digits in a given positive numbers.
23. To input a time as a number of seconds after midpoint
    And Outputs ot as hours: minutes: seconds, For example, if the input were 50000 the output should be 13:53:20.
24. To read the price of one dozen bananas and calculate
    And print the total cost of N bananas.
25. To read a number and find whether it is divisible by two or not.
26. To accept a positive integer and check whether it is One digited, two digited or three digited otherwise print appropriate message.

SARDAR PATEL UNIVERSITY
Course: BCA – 108 : Practical Based on BCA 105
Effective from :June 2003

No. of Credit : 3

No. of Lectures per week: 6
External Marks: 80
Internal Marks : 40
Total Marks :120

University exam duration 3 hours.

The following are the sample definitions:

1. Create a database for salesman which contains information such as salesman number, name gender, region, sales date, number of quantity sold, price, etc. Find:
   a) Information of sales persons who has sold more than 200 quantities.
   b) Information of female sales persons who are working in North.
   c) Region wise sales report
   d) Month wise sales report.

2. Create a database for a farmer which contains information such as farmer's name, land size, crop, live stock, Milk production etc. Find a) Information of farmers who have more than 300 acres of land.
   b) Information of farmers who grow particular crop.
   c) Information of farmers who have more than 100 acres land and more than 2 animals.
   d) Milk Production Report.
   e) Crop wise report.

3. Create a database for panchayat of a village containing information for each family in the village such as number of female members, male members, children, educated members, earning members, race and religion, occupation etc. Find.
   a) Information of families having more than 3 children.
   b) For a particular region, give information of families earning more than Rs. 25 per day.
   c) Report on occupation, male, female, children.

4. Applications such as Payroll, Baking , Inventory, transportation System, Examination System, Monitoring System, Hospital System etc.

SARDAR PATEL UNIVERSITY
Course: BCA – 109 : Practical Based on BCA-106
Effective from :June 2003

No. of Credit : 2

No. of Lectures per week: 4
External Marks: 60
Internal Marks : 30
Total Marks :90

University exam duration 2 hours.

The following are the sample definitions :

1. **MS-WORD**

- Creating the documents with Special effects like underline, bold, different size, different font, different color etc.
- Find and Replace operations like cut, paste, copy, clipboard.
- Inserting Date & Time , Pictures, Bullets & Numbering etc.
- Paragraphs, bullets, indentation, etc. Formatting features.
- Printing the documents, it includes paper size, margins, header and footer, page no. etc.
- Creating a Table.
- Mail merge , spell check, draw table.
- Template.

2. **MS-POWERPOING**

- Creating a presentation
- Inserting/Deleting Slides
- Different slides
- Editing slides
- Formatting slides
- Slide transition & adding special effects.
- Inserting sound, picture, chart, organization chart.

3. **MS-EXCEL**

- Creating Worksheets
- Printing, Inserting, Deleting, Copying, Moving Worksheets.
- Formulas, built in functions
- Graph – Plotting facilities
- Database Management System
- Using externally created data files.
- What – if analysis
- Formatting cells, worksheets etc.
- Custom Controls
- Protection Facility
- Pivot tables
- Macro Facility

SARDAR PATEL UNIVERSITY
Course: BCA – 110 : Practicals based on BCA-101
Effective from :June 2003

No. of Credit : 2

No. of Lectures per week: 4
External Marks: 60
Internal Marks : 30
Total Marks :90

University exam duration 2 hours.

Unit-I	**Listening – 1** - Short lectures, descriptions, narrations, rapid talks, passages read aloud and/or dictated - Conversations based on familiar situations.
Unit-II	**Listening – 2** - Identify language functions - Take and make notes from audio and video Cassettes and CDs.
Unit-III	**Speaking – 1** - Use greetings and formulae in everyday conversation. - Use various notions and functions (invitations, offering advice and apologies, agreement or disagreement etc) - Use grammatically correct and appropriate structures. - Use appropriate, related registers (See List-5 in the Appendix) - Participate in conversations in familiar situations, and on telephone.
Unit-IV	**Speaking – 2** - Give short formal and informal talks - Speeches - Participate in Group Discussions.

Teaching aids Prescribed:

- Person to Person – a BBC Video Course. Teachers may use other courses as per their needs bit testing will be based on this Course.
- K James, R Jordan, A J Matthews(1987), Listening Comprehension and Note-Taking Course (with an audio cassette), Collins Study Skills in English Series, London: Collins.

Books Recommended

- Grant Taylor : English Conversation Practice, New Delhi: TMH.
- V Sasikumar and P V Dhamija : Spoken English : A Self – Learning Guide to Conversation Practice (Audio), New Delhi: TMH.

Testing :Division of Marks

BCA-110 : Communication Skills in English (Practical)	**60 Marks**
1. Listening Comprehension	15 Marks
2. Dictation	05 Marks
3. Note Taking. Making	15 Marks
4. Reading Aloud	10 Marks
5. Speaking on topics set	05 Marks
6. Diary Writing (in Journal)	10 Marks