

**VEER NARMAD SOUTH GUJARAT UNIVERSITY – SURAT**  
**Bachelor of Computer Application (B.C.A) 1<sup>st</sup> Year**  
**Syllabus (As Per CBCS)**

**F. Y. B. C. A. Semester 1**  
**Effective From: June-2012**

**Paper No.: 101**

**Paper Title: COMMUNICATION SKILLS**

**1. Introduction**

- 1.1. Spoken and conversation for Greetings, Requests, Invitation, Permission, Thanks etc.
- 1.2. Basic Sentence patterns
- 1.3. Agreement between Subject and Verb
- 1.4. Basic rule of Composition
- 1.5. Paragraph Development
- 1.6. Vocabulary Development
- 1.7. Model Auxiliary
- 1.8. Active and Passive voice
- 1.9. Conjunction and prepositions

**2. Writing Skills**

- 2.1. Guidelines for effective writing
- 2.2. Writing style of application
- 2.3. Personal Resume
- 2.4. Business letter and Memo including Requests, Complains, asking quotation etc.
- 2.5. Technical Report writing

**3. Speaking and Discussion Skills**

- 3.1. Components of Effective talk / presentation
- 3.2. Planning of content of a talk / presentation
- 3.3. Use of Visual aids
- 3.4. Effective speaking skills
- 3.5. Discussion skills

**Reference Books:**

1. Handbook of practical Communication skills – Chrisle W. JAICO
2. Basic Managerial Skills for all – S. J. McGrath - PHI
3. Reading to learn – Sheila Smith & Thomas M. Methuen (London)
4. Communication conversation Practice \_ Tata McGraw Hill
5. Communication in English – R. P. Bharnagar & R. T. Bell – Orient Longman
6. Good English – G. H. Vallins – Rups & Co.
7. Let's talk English – M. I. Joshi
8. Essentials of Business Communications – Pat & Sons, S. Chand

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**Bachelor of Computer Application (B.C.A) 1<sup>st</sup> Year**  
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**F. Y. B. C. A. Semester 1**  
**Effective From: June-2012**

**Paper No.: 102**

**Paper Title: MATHEMATICS**

**1. Set Theory**

- 1.1. Introduction
- 1.2. Representation
- 1.3. Operation and its properties
- 1.4. Venn Diagram
- 1.5. Cartesian product and graph

**2. Functions**

- 2.1. Definition
- 2.2. Types – Domain and Range
- 2.3. Construction and functions

**3. Mathematical Logic & Boolean Algebra**

- 3.1. Introduction to logic
- 3.2. Truth Table
- 3.3. Definition & Examples of Boolean Algebra
- 3.4. Boolean Functions
- 3.5. Representation and minimization of Boolean Functions
- 3.6. Design example using Boolean algebra

**4. Matrices and Determinants**

- 4.1. Matrices of order  $M * N$
- 4.2. Row and Column transformation
- 4.3. Addition, Subtraction and multiplication of Matrices
- 4.4. Computation of Inverse
- 4.5. Cramer's Rule
- 4.6. Business Application of Matrices

**Reference Books:**

- 1. Co-ordinate Geometry – Shanti Narayan
- 2. Linear Algebra – Sushoma Verma
- 3. Advanced Mathematics – B.S. Shah & Co.
- 4. Schaum's Outline of Boolean algebra and swathing circuits – Elliot Mendelson

**VEER NARMAD SOUTH GUJARAT UNIVERSITY – SURAT**  
**Bachelor of Computer Application (B.C.A) 1<sup>st</sup> Year**  
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**F. Y. B. C. A. Semester 1**  
**Effective From: June-2012**

**Paper No.: 103**

**Paper Title: INTRODUCTION TO COMPUTERS**

**1. Introduction**

- 1.1. History of Development
- 1.2. Types of Computers
- 1.3. Microcomputers, Notebook computers, Palmtops, PDA
- 1.4. Hardware & Software
- 1.5. Cartesian product and graph

**2. Basic Computer Architecture**

- 2.1. Block Diagram & Functional Units
- 2.2. Various hardware components: Mother board, Processor, Memory, ports, peripherals
- 2.3. Phases of Machine cycle
  - i. Fetch Cycle
  - ii. Execution Cycle
- 2.4. BIOS, POST

**3. Number Systems**

- 3.1. Various number systems ( Binary, Octal, Hex, Decimal )
- 3.2. Conversion among various number systems
- 3.3. Binary and Hex arithmetic
- 3.4. Parity Scheme
- 3.5. Character code: EBCIDIC, ASCII, UNICODE

**4. Memory**

- 4.1. Memory organization
- 4.2. Addressing Modes
- 4.3. Memory types: RAM, ROM, FLASH, PROM, EPROM, EEPROM
- 4.4. Concepts of virtual memory, Cache memory

**5. Storage Devices**

- 5.1. Floppy Disks: structure, reading/writing, formatting
- 5.2. Hard disk and its architecture
- 5.3. CD-ROM, DVD ROM
- 5.4. Back up Devices

**6. I/O Devices**

- 6.1. Printers: Line printer, DOT matrix, Laser, Inkjet
- 6.2. Plotters: Scanners, OCR, OMR
- 6.3. Keyboard, Mouse
- 6.4. Other Devices: Joysticks, Touch pads, pens etc.
- 6.5. Monitors (CRT Flat Screen LCD )

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**Bachelor of Computer Application (B.C.A) 1<sup>st</sup> Year**  
**Syllabus (As Per CBCS)**

**Reference Books:**

1. How computer work: Ron White – Tech media
2. Introduction to computers: 4th Edition – Peter Norton
3. Fundamentals of Computers: V. Rajaraman
4. Computer Fundamentals: Pradeep K. Sinha & Priti Sinha (BPB)

**VEER NARMAD SOUTH GUJARAT UNIVERSITY – SURAT**  
**Bachelor of Computer Application (B.C.A) 1<sup>st</sup> Year**  
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**F. Y. B. C. A. Semester 1**  
**Effective From: June-2012**

**Paper No.: 104**

**Paper Title: COMPUTER PROGRAMMING & PROGRAMMING  
METHODOLOGY**

1. **Algorithm and Flowchart**
2. **Programming Languages & Structured Programming**
  - 2.1. Structured Programming
  - 2.2. Concepts of Compiler / Interpreter Editor
3. **Constraints & Variables**
  - 3.1. Character Set
  - 3.2. Constants- needs & Definition
  - 3.3. Variables- needs & Definition
4. **Expression & Operators**
  - 4.1. Operators
  - 4.2. Expression
  - 4.3. Evaluation & Assignment of Expression
5. **Input & Output Systems**
6. **Jumping, Branching & Looping Statements**
7. **Built-in Functions : Mathematical and String Functions**
8. **Concepts Of Arrays**
  - 8.1. One Dimensional Arrays
  - 8.2. Sorting using one Dimensional Array
  - 8.3. Concept of Two Dimensional Array
  - 8.4. Arithmetic operation on two dimensional array
9. **Debugging and testing**

**Reference Books:**

1. Structured Programming Language – La Budde McGraw Hill
2. Programming Experience in BASIC- Kanitkar - BPB
3. Programming With BASIC – Gottfried - TMH
4. Programming in BASIC – Balaguruswamy - TMH

**VEER NARMAD SOUTH GUJARAT UNIVERSITY – SURAT**  
**Bachelor of Computer Application (B.C.A) 1<sup>st</sup> Year**  
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**F. Y. B. C. A. Semester 1**  
**Effective From: June-2012**

**Paper No.: 105**

**Paper Title: PC SOFTWARE - I**

**1. Introduction**

- 1.1. Concept of Windows, Icon, Menu
- 1.2. Desktop
- 1.3. Creating Folders and Shortcuts
- 1.4. Finding Files & Folders
- 1.5. Creating, Copying, Moving and Deleting files
- 1.6. Windows Explorer
- 1.7. Basic DOS Commands

**2. Word Processing Package**

- 2.1. Typing, Editing, Proofing & reviewing
- 2.2. Formatting text & Paragraph
- 2.3. Automatics Formatting and Styles
- 2.4. Working with Tables
- 2.5. Graphics and Frames
- 2.6. Mail Merge
- 2.7. Automating Your Work & printing documents

**3. Spreadsheet package**

- 3.1. Concept of worksheet
- 3.2. Working & Editing in Workbooks
- 3.3. Creating Formats & Links
- 3.4. Protecting and Hiding data
- 3.5. Built in Functions
- 3.6. Formatting a Worksheet & Creating graphics objects
- 3.7. Creating Charts (Graphics), Formatting and analyzing data
- 3.8. Organizing Data in a List (Data Management)
- 3.9. Sharing & Importing Data
- 3.10. Printing
- 3.11. Macros

**4. Presentation Package**

- 4.1. Creating and Editing Slides
- 4.2. Creating and Editing objects in the slide
- 4.3. Animation and Running Slide Show
- 4.4. Creating and Running Slide Show
- 4.5. Templates
- 4.6. Interface with other packages

**VEER NARMAD SOUTH GUJARAT UNIVERSITY – SURAT**  
**Bachelor of Computer Application (B.C.A) 1<sup>st</sup> Year**  
**Syllabus (As Per CBCS)**

**5. Internet**

- 5.1. Concepts
- 5.2. Working
- 5.3. Mailing & surfing tools

**Reference Books:**

1. WORD 6 for Windows Quick & easy Reference - Mansield - BPB
2. Mastering Word 6 for Windows - Mansfield - I3PB
3. Mastering EXCEL 4 for Windows - Townsend - IWB
4. Mastering EXCEL 4 for Windows - Chester - BPB
5. EXCEL 5 for Windows Quick & Eas4 -Jones TECH
6. Mastering Windows 95 Cowat-BPB
7. Mastering Microsoft Office 97 L. Mosely , D.Boody -BPB
8. Internet : An introduction Cisiems – Tata Mac , D. Boody –BPB
9. Internet 6 in 1 – Joe Krayuak & Harbraken , PHI
10. Internet access essential – Tittle & M. Robbins , AP professional
11. P C Software for Windows 98 Made Simple, R K Taxali, TMH

**VEER NARMAD SOUTH GUJARAT UNIVERSITY – SURAT**  
**Bachelor of Computer Application (B.C.A) 1<sup>st</sup> Year**  
**Syllabus (As Per CBCS)**

**F. Y. B. C. A. Semester 1**  
**Effective From: June-2012**

**Paper No.: 106**  
**Paper Title: Practical**

**All Students have to carry out practical work in Subjects - 104 & 105**



**VEER NARMAD SOUTH GUJARAT UNIVERSITY – SURAT**  
**Bachelor of Computer Application (B.C.A) 1<sup>st</sup> Year**  
**Syllabus (As Per CBCS)**

**F. Y. B. C. A. Semester 1**  
**Effective From: June-2012**

No.	Course Type	Subject	Credit	Hrs.	Internal Marks	External Marks	External Exam Duration	Total Marks
101	Foundation compulsory	Communication Skill	2	2	30	70	3 Hrs	100
102	CORE Elective	Mathematics	3	3	30	70	3 Hrs	100
103	CORE	Introduction To Computers	4	4	30	70	3 Hrs	100
104	CORE	Computer Programming and Programming Methodology	4	4	30	70	3Hrs	100
105	CORE	PC-Software-1	4	4	30	70	3 Hrs	100
106	CORE	Practical	6	12	60	140	5 Hrs	200
	Foundation Elective	To be Selected from the list (eg NCC/NSS/Saptdhara)	2	2				
<b>TOTAL</b>			<b>25</b>	<b>31</b>	<b>210</b>	<b>490</b>		<b>700</b>

**VEER NARMAD SOUTH GUJARAT UNIVERSITY – SURAT**  
**Bachelor of Computer Application (B.C.A) 1<sup>st</sup> Year**  
**Syllabus (As Per CBCS)**

**F. Y. B. C. A. Semester 2**  
**Effective From: June-2012**

**Paper No.: 201**

**Paper Title: COMPUTERIZED FINANCIAL ACCOUNTING**

**1. Introduction to Accounting System**

- 1.1. Meaning & Definition of Accounting
- 1.2. Objectives of Accounting
- 1.3. Concepts and Features of Book Keeping
- 1.4. Branches of Accounting (Financial Management, Cust)
- 1.5. Basis of Accounting (Accrual Bases, Cash Bases)

**2. Accounting Concepts**

**3. Accounting Equation & Transaction Analysis**

- 3.1. Introduction to Assets, Liabilities, Equities
- 3.2. Concepts of Transaction Analysis
- 3.3. Classification of Accounts (Real Account, Personal Account, Nominal Account)

**4. Concepts of Book-Keeping**

- 4.1. Introduction of Single Entry System and its advantages/disadvantages
- 4.2. Introduction of Double Entry System and its advantages
- 4.3. Types of Business Transaction
  - 4.3.1. Cash Transaction
  - 4.3.2. Credit Transaction
  - 4.3.3. Barter Transaction
- 4.4. Concepts of important Terminologies: Opening Stock, Closing Stock, Goods, Inventory, Assets, Liabilities, Capital, Debit, Debtors, Creditors, Income, Expenses, Loss, Profit, Credit, Debit.

**5. Journal & Subsidiary Books (With Preliminary examples)**

- 5.1. Meaning of Journal
- 5.2. Format of Journal
- 5.3. Concept and format of cash Book
- 5.4. Concept and format of Petty cash Book
- 5.5. Concept and format of Purchase, Sale, Purchase Return and Sale Return Book

**6. Concept of Accounting Mechanism**

- 6.1. Meaning and Definition of Ledger
- 6.2. Types of Ledger
- 6.3. Trial Balance and its objectives

**Reference Books:**

**VEER NARMAD SOUTH GUJARAT UNIVERSITY – SURAT**  
**Bachelor of Computer Application (B.C.A) 1<sup>st</sup> Year**  
**Syllabus (As Per CBCS)**

1. Accounting for Management – By Dr. Hawaharlal
2. Financial Management - By Dr. S.N. Maheshwari
3. Accounting for Management – By S.K. Bhattacharya & John Deardon
4. Advanced Accountancy – By S.P. Jain & K.I. Narang
5. Implementing Tally 6.3 – By K.K. Nathani – BPB Publication
6. Implementing Tally 7.2 – By A.K. Nathani & K.K. Nathani BPB Publication

**VEER NARMAD SOUTH GUJARAT UNIVERSITY – SURAT**  
**Bachelor of Computer Application (B.C.A) 1<sup>st</sup> Year**  
**Syllabus (As Per CBCS)**

**F. Y. B. C. A. Semester 2**  
**Effective From: June-2012**

**Paper No.: 202**

**Paper Title: ORGANIZATION STRUCTURE & BEHAVIOUR**

**1. Introduction to Organization**

- 1.1. What makes an organization
- 1.2. Structure of organization
- 1.3. What is Management
- 1.4. Scope of Management

**2. Need for Management**

- 2.1. Role of Management
- 2.2. Manager's Role (Interpersonal Role, Information Role and Decisional Role )
- 2.3. Managerial Skills (Technical Skills, Human Skills, Conceptual Skills)

**3. Attitude**

- 3.1. Meaning of Attitudes
- 3.2. Characteristics of Attitudes

**4. Motivation**

- 4.1. What is motivation?
- 4.2. Nature and Characteristics of Motivation
- 4.3. Importance & Benefits of Motivation

**5. Leadership**

- 5.1. What is Leadership?
- 5.2. Characteristics of Leadership
- 5.3. Leadership Styles
- 5.4. Leadership Skills (Technical Skills, Human Skills, Conceptual Skills. Personal Skills)

**6. BPO & Call Center**

- 6.1. What is B.P.O?
- 6.2. What is out-sourcing? Benefits of outsourcing
- 6.3. What is Call Center?
- 6.4. Call center setup & functions

**Reference Books:**

- 1. Management & Organization Development – By Ahmed Abod Rachna Prakashan, New Delhi
- 2. Organization Behaviour – By Aplewhite Philip, Prentice hall
- 3. Management & Organization Development – By Argyris Chris, McGraw Hill
- 4. Human Behaviour at work – By Davis Keeth, Tata McGraw Hill
- 5. Organization Behaviour – By L.M. Prasad.

**VEER NARMAD SOUTH GUJARAT UNIVERSITY – SURAT**  
**Bachelor of Computer Application (B.C.A) 1<sup>st</sup> Year**  
**Syllabus (As Per CBCS)**

6. Principles and Practices of Management – By L.M. Prasad.
7. Managing People at work – By Harris O Jeff, John Wiley & Sons Publication
8. Call Centers – By S. Pankaj (APII Publication)

**VEER NARMAD SOUTH GUJARAT UNIVERSITY – SURAT**  
**Bachelor of Computer Application (B.C.A) 1<sup>st</sup> Year**  
**Syllabus (As Per CBCS)**

**F. Y. B. C. A. Semester 2**  
**Effective From: June-2012**

**Paper No.: 203**

**Paper Title: INTRODUCTION TO OPERATING SYSTEM**

**1. Operating System Concepts**

- 1.1. Evolution of Operating System & History
- 1.2. Need of an Operating System
- 1.3. Single User & Multi User Operating System
- 1.4. Elements of an Operating System
- 1.5. Operating System as a Resource Manager

**2. Introduction to File System and File Management**

- 2.1. File Concept
- 2.2. Operations on File
- 2.3. File Access Methods (Sequential Access and Direct Access)
- 2.4. Directory Systems File Management Functions.
- 2.5. File System and Directory Structure organization.
- 2.6. File Protection.

**3. Microsoft Windows Management**

- 3.1. System properties using My Computer
- 3.2. Concept of Domain
- 3.3. Windows Administration Tools
- 3.4. Event Viewer
- 3.5. Computer Management
- 3.6. System Tools
- 3.7. Storage
- 3.8. Introduction to Local Security Policy
- 3.9. Windows MMC & Snap-ins
- 3.10. System Configuration Utility (msConfig)

**4. Device Management**

- 4.1. Device Management Function
- 4.2. Device Characteristics
- 4.3. Disk space Management
- 4.4. Allocation and Disk Scheduling Methods

**Reference Books:**

- 1. Operating System Concepts – James Peterson – McGraw Hill
- 2. Inside IBM PC – Peter Norton - PHI
- 3. Advanced MSDOS - Ray Duncon – McGraw Hill
- 4. Operating System – Stallings - PHI

**VEER NARMAD SOUTH GUJARAT UNIVERSITY – SURAT**  
**Bachelor of Computer Application (B.C.A) 1<sup>st</sup> Year**  
**Syllabus (As Per CBCS)**

**F. Y. B. C. A. Semester 2**

**Effective From: June-2012**

**Paper No.: 204**

**Paper Title: PROGRAMMING LANGUAGE - I**

**1. Introduction to Programming Language & its IDE**

**2. Constant & Variables**

- 2.1. Character Set
- 2.2. Constants – Needs & Definition
- 2.3. Variables – Needs & Definition
- 2.4. Preprocessor Directories

**3. Expression & Operations**

- 3.1. Operators
- 3.2. Expression
- 3.3. Evaluation & Assignment of Expression

**4. Input & Output Functions**

**5. Jumping, Branching & Looping Statements**

**6. Built in Functions**

- 6.1. Mathematical Functions
- 6.2. String Functions
- 6.3. Conversion Functions

**7. Arrays**

**8. Introduction to pointer**

- 8.1. Address and value operators
- 8.2. Pointer Arithmetic

**9. Introduction to User Define Function**

- 9.1. Call by Value
- 9.2. Call by reference

**10. Structure & Union**

**11. Storage classes and its use**

**VEER NARMAD SOUTH GUJARAT UNIVERSITY – SURAT**  
**Bachelor of Computer Application (B.C.A) 1<sup>st</sup> Year**  
**Syllabus (As Per CBCS)**

**Reference Books:**

1. Programming in C - Balaguruswami - TMH
2. C Programming Language - Kernigham & Ritchie - TMH
3. The spirit of C - Cooper H & Mullish H - Jaico Pub.
4. Programming in C - Stephan Kochan - CBS
5. Mastering Turbo C - Kelly & Bootle - BPB
6. C Language Programming - Byron Gottfried -TMH
7. Mastering Turbo C - Stan Kelly - BPB



**VEER NARMAD SOUTH GUJARAT UNIVERSITY – SURAT**  
**Bachelor of Computer Application (B.C.A) 1<sup>st</sup> Year**  
**Syllabus (As Per CBCS)**

**F. Y. B. C. A. Semester 2**  
**Effective From: June-2012**

**Paper No.: 205**

**Paper Title: DATABASE MANAGEMENT SYSTEM**

**1. Introduction to Database Systems**

- 1.1. Drawbacks of Conventional File Processing System
- 1.2. Need of Database Management System
- 1.3. Organization of database (Physical, Conceptual, Logical)
- 1.4. Data Models
  - 1.4.1. Object based data models: E-R Model
    - 1.4.1.1. E-R Diagram
    - 1.4.1.2. Entities & entity sets
    - 1.4.1.3. Types of relationships
  - 1.4.2. Record based data models: Network, hierarchical & Relational
  - 1.4.3. Physical data models
- 1.5. Components of Data Base Management System
  - 1.5.1. Query Language: DDL, DML, TCL
  - 1.5.2. Database Users: DBA, Programmer, Other Users
- 1.6. Functional Dependencies & Closure of Functional Dependencies
- 1.7. Keys: Super Key, Candidate Key, Primary Key, Alternate Key, Foreign Key
- 1.8. Data independence: Logical & Physical
- 1.9. Constraints
  - 1.9.1. Domain Integrity
  - 1.9.2. Referential Integrity
  - 1.9.3. Entity Integrity

**2. Relational Database Design**

- 2.1. Structure of Relational Database Model
- 2.2. Normalization
  - 2.2.1. First Normal Form
  - 2.2.2. Second Normal Form
  - 2.2.3. Third Normal Form
  - 2.2.4. BCNF
- 2.3. File Access Methods (Sequential Access and Direct Access)
- 2.4. Directory Systems

**3. Microsoft Access**

- 3.1. Working with databases & tables
- 3.2. Managing Constraints & Relationships
- 3.3. Using SQL Queries

**VEER NARMAD SOUTH GUJARAT UNIVERSITY – SURAT**  
**Bachelor of Computer Application (B.C.A) 1<sup>st</sup> Year**  
**Syllabus (As Per CBCS)**

**Reference Books:**

1. Database System Concepts – Henry F. Korth & Abraham Silberschatz - IMR
2. Introduction to Database Management System – Bipin C. Desai - Galgotia
3. Principles of database systems – Jeffery Ullman – Galgotia Publication
4. An introduction to Database Systems – C.J. Date – Addison Wesley
5. Introduction to database Management – Navin Prakash -TM
6. Access- The Complete Reference – Virginia Andersen – McGraw-Hill
7. Access Database Design & Programming – Steven Roman –O'Reilly
8. ABC of Microsoft Access: Cowart Robert: BPB Publication

**VEER NARMAD SOUTH GUJARAT UNIVERSITY – SURAT**  
**Bachelor of Computer Application (B.C.A) 1<sup>st</sup> Year**  
**Syllabus (As Per CBCS)**

**F. Y. B. C. A. Semester 2**  
**Effective From: June-2012**

**Paper No.: 206**  
**Paper Title: Practical**

**All Students have to carry out practical work in Subjects - 204 & 205**

**VEER NARMAD SOUTH GUJARAT UNIVERSITY – SURAT**  
**Bachelor of Computer Application (B.C.A) 1<sup>st</sup> Year**  
**Syllabus (As Per CBCS)**

**F. Y. B. C. A. Semester 2**  
**Effective From: June-2012**

No	Course Type	Subject	Credit	Hrs	Internal Marks	External Marks	External Exam Duration	Total Marks
201	Foundation compulsory	Organization Structure Behaviour	2	2	30	70	3 Hrs	100
202	CORE Elective	Financial Accounting	3	3	30	70	3 Hrs	100
203	CORE	Operating System	4	4	30	70	3 Hrs	100
204	CORE	Programming Language-1	4	4	30	70	3Hrs	100
205	CORE	DBMS	4	4	30	70	3 Hrs	100
206	CORE	Practical	6	12	60	140	5 Hrs	200
	Foundation Elective	To be Selected from the list (eg NCC/NSS/Saptdhara)	2	2				
<b>TOTAL</b>			<b>25</b>	<b>31</b>	<b>210</b>	<b>490</b>		<b>700</b>