

**1. Computers – An Introduction**

**(20%)**

**(a) Computer Hardware and I / O Devices:**

What is Computer? - Basic structure of computer – Different types of personal Computer, Micro Computers, Computers, Mainframe Computers, Super Computer etc.

CPU, VDU Keyboard, Mouse, Scanners, MICR, OMR, OCR, Dot Matrix Printers, Inkjet Printers, Laser Printers, Line Printers etc.

Memory Organization: Memory system: Internal Processor Memory, Primary or Main Memory, RAM, ROM, PROM, EPROM, EEPROM.

External or Auxiliary Memory: storage capacity, Access Modes: - Sequential access and Direct access. Access and seek time.

Storage Devices and media: Floppy disk, Floppy disk drive, Winchester disk drive, Cartridge tape, CD-ROM drive, Compact Disk, Erasable optical disk.

**(b) Software:**

Introduction of system software & application software and it's uses in information technology.

**2 Graphical User Interface**

**(10%)**

**(a) Graphical User Interface (GUI)**

Introduction, Common Graphical User Interface Terms: Pointing devices, Bit-mapped displays, Windows, Menus, Dialog Boxes, Icons, Desktop Metaphors.

**(b) Operating System Concepts:**

Introduction. Types of Operating System : Multitasking operating system, Multi-user operating system.

**GUI base operating system:**

Advantages over other system, Starting with shortcuts: keyboards, Desktop, Work with Files and Folders – To create, move, delete, cut & copy, rename, printing etc. Use of Recycle Bin.

Disk tools: Properties, Scan Disk, Defragmentation etc.

**3. Office Automation and Tools**

**(10%)**

(i) Today's office, need for office automation, office automation, Advantage of office automation, office automation functions.

Tools of office automation:

(a) Work on documents by using GUI tools

(30%)

How to start Word, Screen of Word.

**Additional Features:** Using the Show command, Changing the case of text, Moving & Copying text with drag & drop, Justifying text, Creating Bulleted & Numbered lists, Arranging & Moving between documents.

**Typing and Editing:** Typing and revising text, Typing text, Text editing, Copying and Moving, Typing special characters (Symbols)

**Finding and Replacing:** Finding and Replacing text and formatting, Using Go To command.

**Editing and Proofing Tools:** Using the Spelling checker, Checking grammar, Looking up words the Thesaurus, Using Hyphenation.

**Formatting Text:** Formatting text characters.

**Formatting Paragraph:** Centering, Right alignment and Left alignment, Indenting text, Tab Stops, Line spacing, Paragraph spacing, Borders and Shading.

**Document Templates:** Template Wizards, Starting a new document from a template.

**Page design and Layout:**

**Page Setup:** Paper size and page orientation, Page margins, Headers and Footers, Page Numbering.

**Tables:** Table creation, Table modification, Table formatting, Sorting & Numbering cells, Special tasks with tables

**Mail Merge:** Data Sources & Main document, Starting & Editing the main document, Merge printing Envelopes & Labels.

**Macro:** Need of Macros, Creation of Macro, Uses of Macro.

## Q-BASIC PROGRAMMING

(30%)

- 1) Problem solving & Flow charts.  
Problem solving, Flow charting, Branching looping, The connector.
- 2) Getting started with QBASIC  
Constants & variables, numbers, string, operators & formula, hierarchy of operation, use of parentheses, INPUT statement, PRINT statement, END statement, STOP statement, REM statement, GOTO & GOSUB statement.
- 3) BRANCHING & LOOPING  
Relational operator, conditional branching IF..THEN.. ELSE st., Multiple branching ON GOTO & ON GOSUB st., LOOPIN st., FOR.. TO NEXT st., Nested loops.
- 4) ADDITIONAL FEATURES OF BASIC  
ABS, INT, FIX, MOD, SQR, MIDS, RIGHTS, LEFTS, TAB, SPC, LCASE\$, UCASE\$, CHR\$, SWAP, LEN, DIM.
- 5) DATA FILES  
OPEN, CLOSE, INPUT #, WRITE #, EOF( ).

**Reference books for First Year B.com:**

Name of the book	Author	Publication
Window-95 No experience required	Crawford	BPB
Window-98 No experience required	Crawford	BPB
Learn Window in a day	Doolem	BPB
Teach yourself Window 95 in 24 hours	Perry	Teachmedia
ABC of Local Area Network	Dortch	BPB
Learning Guide to MS-OFFICE Professional for WIN 95	Marquis	BPB
Mastering MS-OFFICE professional 7.0 WIN 95	Moseley	BPB
ABCs of MS OFFICE 97/2000 professional	Hart	BPB
Learn MS OFFICE 97/2000	Stultz	BPB
MS OFFICE 97/2000 No experience required	Courter	BPB
Complete Guide to Window Word & Excel	Mansfield	BPB
MS OFFICE 97/2000 Interactive course	Perry	Teachmedia
Teach Yourself MS OFFICE 97 in 24 hours	Perry	Teachmedia
MS Office 97/2000 User certification study Guide	Annette Marquis & Gini Courter	BPB
Learn MS WORD 7.0 for WINDOWS 95 In a day	Stultz	BPB
The ABCs of Word 97/2000	Hart	BPB
WORD 97/2000 Training Guide	Reidelbach	BPB
Office 97/2000 Small Business Solution		Comodex
The complete Idiot's guide to MS WORD	Babola	Que
gat Computer and DOS Packegs	R P Soni & Other	Tata Mac.
1) Illustrated Qbasic for ms-dos 5.0	Hari venkateswara	JAICO pub. House
2) Programming in BASIC	E. balagrusamy	Tata mc. Graw hill
3) Programming with BASIC	Byron s. gottfried	Schaum's out, mc.Graw hill

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**Computer Application (Vocational) Paper – II**

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**1.Data Base Management System**

**(40%)**

(Any GUI base package like FoxPro 2.6 , MS-Access/Visual Foxpro)

**Introduction:**

DBMS as Programming Language, Utilities and Tools.

**Defining database and Indexes:**

Defining a databases, Normalizing databases, Data integrity, Data consistency, Defining indexes

**Data Entry:**

Providing data defaults, Input validation, Calculated fields, Control object, Read options.

**Procedure and User defined functions:**

Procedure, Functions, Choosing between procedure and functions, Creating procedure and functions library.

**DBMS and Windows :**

Windows: Defining - Activating – Removing – Modifying – Saving and Restoring Window.

**Use of Macro with GUI package for DBMS :**

Macro: Keyboard Macro, Keyboard Command, Text Merge.

**Arrays:**

Arrays: Creating and Naming array, Redimensioning arrays, Redefining arrays, Copying arrays, Determining array length, Sorting array, Searching an array for an expression.

**Using Memo Fields :**

Memo Fields: Adding a memo to databases, Using memo, Locating text in a memo.

**Menus :**

Menu terminology, Popup menus, Horizontal bar menu, component menus, Menu functions, HIDE/SHOW/RELEASE/DEACTIVATE Menu and Popup.

**The Report Generator :**

Starting Report, Creating a report form, Defining group, Creating a quick report, Enhancing report, Adding and deleting fields.

**Screen Generator :**

Generating information screens, Creating edit screen.

**The Menu Generator :**

Quick menu, Creating a sample application menu.

## 2. Worksheet using GUI tools

(30%)

Introduction about worksheet and advantages in business, How to create new work sheet, Find a worksheet, Insert a worksheet, Delete a worksheet, Move the worksheet, Selecting cells, Enter and Edit data, To create a Custom Lists, Cell References, Range Names, Navigate worksheet, Search and Replace data.

**Rearrange Cell Contents:** Move or Copy cell contents, Inserting or Deleting rows & columns, Save and protect workbook.

### CALCULATIONS IN WORKSHEET:

**Formula Basics:** Basic properties of formula, Order of precedence of operators, How to enter a formula? Editing formula.

### Functions: Categories of Functions:

**Arithmetic Functions:** SUM(), ABS(), EVEN(), EXP(), INT(), FACT(), MOD(), PRODUCT(), ROUND(), SQRT(), CEILING(), RAND(), LOG(), EXACT(), FIND()

**Characters Functions:** LEFT(), RIGHT(), LEN(), LOWER(), UPPER(), MID(), PROPER().

**Date and Time Functions:** DATE(), DATEVALUE(), DAY(), MONTH(), YEAR(), WEEKDAY(), HOUR(), MINUTE(), NOW(), TODAY().

**Logical Functions:** AND(), NOT(), OR().

**Formatting and Print Worksheet:** Page Setup, Column Width and Row Height, Using menu commands, Using Mouse, Fonts, Numbers, Alignments, Getting worksheet printed.

**Using Custom controls:** Forms Toolbar, Create controls on the worksheet, Format controls, Worksheet controls.

**Charts:** Chart types, Editing charts: Adding of deleting data, Change the chart type, Format as chart, Drawing in the chart Pie chart, Series chart line and Area chart, Column and Bar chart, Stacked 3-d column chart, XY chart, Stock chart.

## 3. Networking

(20%)

### Network concept and classification:

Local Area Network:

Need of Networking

Characteristics of LAN

### LAN topology :

Ring, Star, Bus

### LAN access methods:

CSMA/CD, token passing

### Communication architecture:

Application layer, Presentation layer, Session layer, Transport layer, Network layer, Datalink layer, Physical layer.

### LAN hardware and software :

Transmission channel, Network Interface Unit, Servers, Workstation.

Facilities available under Novel Network Operating System.

**4. Installation Management : Introduction****(10%)**

Backup, Importance, Backup procedure, Diagnostics for IBM PC. Use of Norton Utilities for system maintenance jobs.

**Virus:**

Introduction, the process of infection, Classification of virus, viruses prevention, cure from viruses.

**Reference Book for S.Y.Bcom**

Name of the book	Author	Publication
Learn EXCEL 7.0 for Window in a day	Stulz	BPB
Teach Yourself EXCEL 7.0 for Window 95	Weingarten	BPB
ABCs of Excel 97/2000	Weisskopf	BPB
Mastering EXCEL 97/2000	Chester	BPB
EXCEL 97/2000 Training Guide	Schwartz	BPB
Teach yourself MS EXCEL in 24 hours	Peterson	Teachmedia
The complete Idiot's guide to MS EXCEL 97/2000	Post & Gold	Que
Developing & distributing FOXPRO 2.5/2.6	Havewala	BPB
Mastering FOXPRO 2.5 and 2.6	Seigel	BPB
Programming FOXPRO 2.5 and 2.6	Liskin	BPB
Programming Guide to FOXPRO 2.5/2.6	Dickler	BPB
Foxpro 2.5/2.6	R.K. Taxali	
Data Base Management System	C J Date	
ABC of MS Access	Cowart	BPB
Learn MS Access for Windows in a day	Stulz	BPB
Teach Yourself ACCESS for WINDOWS 95	Siegel	BPB
ACCESS 97 Developers Handbook	Litwin	BPB
Dictionary of NETWORKING	Dyson	BPB
Learn Norton Utility in a day	Dejesus	BPB
NORTON Desktop for Window instant Reference	Crawford	BPB
Computer Virus Protection handbook	Haynes	BPB
Introduction of LAN (Revised Edition)	Thomas	BPB
Mastering Local Area Networks	Minasi	BPB
LAN Troubleshooting Handbook	Milner	BPB
Local Area Network and their Application	Tangney	PHI
Angat Computer and DOS Packegs	R P Soni & Other	Tata Mac.

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**Computer Application (Vocational) PAPER – III**

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**STRUCTURED PROGRAMMING THROUGH 'C'**

- A. Structured Programming (40%)**
- Need of Structured Programming
  - Tools & Techniques of Problem Analysis
    - Algorithm Development
    - Flow Chart
    - Decision Table and Tree
    - Documentation
    - Data Flow Diagram
    - Entity Relationship Chart
- B. Programming in 'C' language (60%)**
- Introduction to 'C'
  - Basic Structure of 'C' Program
  - Character set, Tokens and Keywords
  - Constant, Variable and Datatypes
  - Operators
  - Expression
  - Program Control Statements
  - Handling of Arrays and Character String
  - Functions
  - Input, Output and Disk Files
  - Program Development Process
    - Program design
    - Program coding
    - Program testing

**Text/Reference**

1. Programming in ANSI C
    - E Balagurusamy , Tata McGraw-Hill
  2. Programming with C
    - Gottfried, McGraw-Hill International
  3. The sprit of 'C'
    - Mullish cooper [ JAICO publishing house]
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**Computer Application (Vocational) PAPER - IV**

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**DESKTOP PUBLISHING & COMPUTER BASED FINANCIAL ACCOUNTING SYSTEM**

**A. What is DTP ? (10%)**  
DTP system, tradition v/s DTP system, H/W for DTP unit, (laser printer, scanner, mouse) DTP package/software such as pagemaker, corel draw.

**B. PAGE MAKER. (30%)**  
**Basics :**

Menus and commands, Dialog boxes, Starting a Page Maker document, The New command, Screen components, Title bar, The toolbox, Style and Color palettes, The Control palette, The Library palette, Page number icons, The page, The pasteboard, The rules, The scroll bars, Page views, The preferences command, Undo command, Close command, The Open command, The Exit command, The Save/Save As command.

Placing Files

Working with Text Blocks

**Editing Text :**

Changing text, Moving the insertion point, Deleting more than one character at a time, Cut, Copy, Paste, Clear, and Multiple paste, Changing text attributes (Type menu), Font, Size, Leading, Set width, Track, Type style, Type specs command, The Control palette and text, Paragraph command, Indents/tabs command, The Control palette and Paragraph view, Hyphenation, Alignment, Style and Define styles, Creating new text files, Exporting text.

**Creating Graphics :**

Selecting graphics, Changing line and fill, Fill and line, Moving, Resizing, Rotating graphics, Editing graphics, The Control palette and graphics, The Apply button, The Proxy, The nudge buttons, Moving a graphic with the Control palette, Resizing graphics with the Control palette, Proportional scaling, Rotating and skewing graphics with the Control palette, Reflecting graphics with the Control palette, Remove transformation, Changing the printing order of graphics, Drawing round-cornered rectangles, Rulers. Ruler guides, Setting the graphic defaults, Maintaining aspect ratio, Wraparounds.

**Master Pages :**

Master page icons, Master page guides, Adding text and graphics, Headers, footers, and page numbers, Removing master items.

**Templates :**

Creating templates, Text and graphics placeholders, Graphic placeholders, Text placeholders, Heading placeholders.

**PageMaker Styles :**

Creating new styles, Defining styles from scratch, Applying styles, editing styles, Based on, Next styles, Removing styles, Renaming styles, Copying styles, Importing styles, Overriding styles, Changing styles from Story editor view.

**Printing**

## C. COREL DRAW

(30%)

### (1) Using the CorelDraw screen

- Start coreldraw, coreldraw screen, exploring various bar such as menubar, scroll bar, tool bar etc... corel tutor.

### (2) Drawing objects

- Selection technique, working with lines, curves, ellipse, circles, rectangles, squares, grid, ruler, guidelines, snapping to objects, use of roll-up.
- Beizer curves, polygon, natural pen tool, working with nodes, adding & deleting nodes, rotating/skewing nodes.

### (3) Text Work

- Text tool, Creating artistic text, paragraph text, changing typeface, type size, applying text effects, aligning text, adjusting spacing, shifting & rotating text.

### (4) Outlining & Filling objects

- Working with preset outlines, setting outline widths, colors, styles, applying outline arrows, editing arrows.
- Applying uniform fills, pattern fills, using two color & full color pattern fills, bitmap pattern fills, fountain & texture fills, copying fills, setting fill defaults.

### (5) Working with files

- Save, import, export, insert object & print the files.

### (6) Page Layout

- Applying a layout style, setting the page size, creating a custom page size, setting page orientation, hiding the page border, working with facing pages, setting the start page.

### (7) Printing & Publishing

- Selecting printer, selecting what to print, previewing before printing, using print styles, using layout styles, proofing aids, printing to a files, publishing to the Internet.

## D. Use of any computer based Financial Accounting System package (such as Tally, Profit, Vyapar etc...)

(30%)

Advantage of computer based Accounting compare to manual Accounting.

### Accounting terms

Asset, liabilities, debts, capital, drawing, debtors, creditors, bad debts, bad debts return, discount (frade & cash), closing & opening stock, vouchers, profit, loss & goods.

### Accounting groups

Capital Account, reserve surplus, loans, bank OD , secured & unsecured loan, fixed asset, profit & loss, sales & purchase etc...

Old Balance entry, Check entry, Cash entry, Sales entry, Purchase entry, Interest calculation.

- Various Accounts such as Accounts receivable, payable, bank accounts, cash in hand etc...
- Cash book bank register, purchase book, sales book, ledger, trial balance, trading A/C., profit & loss A/C., balance sheet.
- Various reports such as Account receivable, payable, daily balance, ledger

References	Author	Publication
CorelDraw 7/9 in easy step	setphen opestaker	comdex (pustak mahal)
CorelDraw 7/9 Bible	Deborah millar	I & G (pustak mahal)
PageMaker 5 by example (W/D)	Webster	BPB
Mastering pagemaker 6/6.5 (W/CD)	Allman	BPB
Page maker 6.5 complete	Shamms	Techmedia
Coreldraw 9 in 24 hours	Karlins	Techmedia
Mastering CorelDraw 9	Altman	BPB
Teach yourself PageMaker 6.5	Busch	BPB
Computerised Financial Accounting using Tally	Rajan chougale	Modern pub.
Implmenting Tally 5.4	K.K. Nadhani	BPB

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Computer Application (Vocational) PAPER – V**

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**-INTERNET AND HTML SCRIPTING**

- A Internet (30%)**
- Introducing the Internet
    - How Internet Developed
    - How Internet Works
    - Domain Names and Address
    - Internet Connections
    - URL
  - Services available on Internet
    - WWW
    - E-mail
    - FTP
    - Telnet
    - Newsgroups
    - Chat
- B Web Page designing (70%)**
- Tools available
  - HTML scripting
    - Understanding HTML and the WEB
    - HTML document structure
    - HTML comment
    - HTML tags
    - Text Alignment, Formatting and Font Control
    - Tables
    - Lists
    - Styles
    - Images, Sound and Animation
  - Introduction to FrontPage to create web document
  - E-commerce: An introduction

**Text/Reference**

1. Internet: An Introduction
    - CISTEMS, TATA Mc-GRAW HILL
  2. Internet 6 in 1
    - Joe Kraynak and Joe Habraken , Que & PHI Pub.
  3. Internet for Beginners (Gujarati)
    - Hemang Antani CISTEMS, TATA McGRAW HILL
- 

**Prepared by :-**

- [1] Mr. Bipinbhai V.Mehta.
- [2] Mr. Tejas S.Mehta.
- [3] Mr. Faruk Vohra.