

9. Computer Science

Course Content

UNIT-1 Introduction and Evolution of Computer

- 1.1 Concept and Characteristics of Computer
- 1.2 Application of Computers
- 1.3 History of Computer: Mechanical Calculating era, Electro-Mechanical era, Electronic computers era
- 1.4 Generation of Computers: First, Second, Third, Fourth and Fifth Generation(AI) and its features
- 1.5 Computer speed and Measurement Unit

UNIT-2 Classification of Computer

- 2.1 On the basis of working principle – Analog, Digital and Hybrid Computers
- 2.2 On the basis of size – Super, Mainframe, Mini and Microcomputers
- 2.3 On the basis of brand – IBM PC, IBM Compatible and Apple/Macintosh
- 2.4 Mobile Computing

UNIT-3 Number System and Their Conversion

- 3.1 Decimal, Binary, Octal, Hexadecimal Number System & conversion
- 3.2 9's and 10's complements decimal subtraction
- 3.3 Calculation in Binary – addition, subtraction, One's and Two's Complement Methods of binary subtraction

UNIT-4 Logic Function and Boolean Algebra

- 4.1 Logic Function and Boolean Algebra
- 4.2 Introduction of Truth Table, Boolean Expression
- 4.3 Logic Gates –AND, OR, NOT, NAND, NOR, XOR and XNOR – its definition, use, truth table, logic symbol
- 4.4 Duality Principle
- 4.5 Laws of Boolean Algebra – Associative, Commutative, Distributive, Identity, Complement Laws
- 4.6 De Morgan's Theorem : Statement and Logic Expression
- 4.7 Venn diagram and its represent of logic gates(AND, OR, NOT)

UNIT-5 Computer Systems

- 5.1 Concept of Computer Architecture
- 5.2 Concept of Computer Organization
- 5.3 Components of Computer System – Input, Output, Processor and Storage
- 5.4 Microprocessor – Concepts, Components of Processor, Functions
- 5.5 Concept of System Buses: Data Bus, Address Bus, Control Bus
- 5.6 Memory – Primary and Secondary, Cache(L1, L2), Buffer, RAM, ROM
- 5.7 Storage Device – Definition, Use, Types: Hard Disk, Floppy Disk, Magnetic Tape, Flash Memory, Optical Disk(CD,VCD,DVD), External Storage Device
- 5.8 Input Devices – Keyboard, Mouse, Scanner, Light Pen, OMR, OCR, BCR, Scanner, Touch Pad Kiosk, Microphone and Digital Camera
- Output Devices – Monitor, Printer, Plotter, Speaker
- 5.9 Computer Peripherals
- 5.11 Interfaces – Parallel Port, Serial Port, USB Ports, IEEE 1394 and Slots
- 5.12 Identification of PC Accessories and Peripherals
- 5.13 Specification of PC
- 5.14 Software and Classification
- 5.14.1 System software: OS, Language processor
- 5.14.2 Application software including Utilities Software
- 5.14.3 Computer Virus and Antivirus

UNIT-6 Operating System

6.1 Fundamental Concept

- 6.1.1 Introduction to Operating System
- 6.1.2 Role of Operating System
- 6.1.3 Functions of an Operating System
- 6.1.4 Types of Operating System: Based on Processing Method (Batch, Multitasking, Multiprocessing, Timesharing, Real Time), Based on User Interface (GUI, CUI), Based on Mode of User (Single-user & Multi-user)

6.2 Disk Operating System (DOS)

- 6.2.1 Introduction to CUI and it's feature
- 6.2.2 Common DOS Commands (External and Internal Commands)
- 6.2.3 Concept of File and Directory
- 6.2.4 Wildcards and Pathname
- 6.2.5 System Files: Config.sys, IO.sys, MSDOS. sys, autoexec.bat

6.3 Windows Operating System

- 6.3.1 Introduction to GUI and its features
- 6.3.2 Working with a Window Environment
- 6.3.3 Working with a Windows Application Program
- 6.3.4 Working with Files and Folders
- 6.3.5 Customizing the Taskbar and Desktop
- 6.3.6 Customizing Windows
- 6.3.7 Use of Accessories

6.4 Concept of Open Sources Operating System

- 6.4.1 Introduction to Open Sources Operating System
- 6.4.2 Introduction to Linux, UNIX

UNIT-7 Programming Concepts & Logics

- 7.1 Programming Languages(Low level, High level, 4 GL)
- 7.2 Compiler, Interpreter and Assembler
- 7.3 List of high level Programming Language
- 7.4 Difference between Program and Software
- 7.5 Concept of Programming Statement
- 7.6 Syntax and Semantics errors
- 7.7 Program Control Structures: Sequence, Selection and Iteration.
- 7.8 Program Design tools – Algorithm, Flowchart and Pseudo code
- 7.9 Introduction to Data Type
- 7.10 Codes: Absolute Binary, BCD, ASCII ,EBCDIC, Unicode

UNIT-8 Application Package**8.1 Word Processor**

- 8.1.1 Concept of Word Processor
- 8.1.2 Types of Word Processing
- 8.1.3 Basic terms of word processing
- 8.1.4 Working and Editing Text
- 8.1.5 Formatting Characters and Paragraphs
- 8.1.6 Formatting Pages
- 8.1.7 Working with Tables
- 8.1.8 Working with Templates and Styles
- 8.1.9 Drawing and Working with Graphics
- 8.1.10 Performing a Mail Merge
- 8.1.11 Document Collaboration
- 8.1.12 Working with Outlines and Long Documents
- 8.1.13 Working with WordArt and Charts
- 8.1.14 Project Work on Word Processor

8.2 Spread Sheet

- 8.2.1 Concept and Use of Spread Sheet
- 8.2.2 Types of Spread Sheet
- 8.2.3 Basic fundamentals of Spread Sheet
- 8.2.4 Formatting a Worksheet
- 8.2.5 Creating and Working with Charts
- 8.2.6 Managing Workbooks
- 8.2.7 General Functions and Formulas
- 8.2.8 Data Filter and sorting
- 8.2.9 Working with Other objects
- 8.2.10 Data Analysis and PivotTables
- 8.2.11 What-If Analysis
- 8.2.12 Project Work on Spread Sheet

8.3 Presentation

- 8.3.1 Concept of Presentation
- 8.3.2 Types and use of Presentation Program
- 8.3.3 Basic fundamental of Presentation
- 8.3.4 Editing a Presentation
- 8.3.5 Design and Formatting Presentation
- 8.3.6 Transition of Presentation
- 8.3.7 Animation and Custom Animation
- 8.3.8 Working with Tables, Graphics and WordArt
- 8.3.9 Working with Graphs and Organization Charts
- 8.3.10 Working with Multimedia
- 8.3.11 Project Work on Presentation

UNIT- 9 Internet and E-mail**9.1 Internet**

- 9.1.1 Introduction of Internet
- 9.1.2 Uses of Internet:
- 9.1.3 Concept of Protocols

- 9.1.4 Web Browser, Web Page, Website, Web Server, URL, DNS
- 9.1.5 Search Engine, Messenger Services
- 9.1.6 Setting Browser Properties
- 9.1.7 Setup Network Connection
- 9.2 E-mail
- 9.2.1 Concept of E-mail
- 9.2.2 Uses of E-mail
- 9.2.3 Different types of E-mail Account
- 9.2.4 Web Based E-mail and POP E-mail

Unit- 10 Web Page Designing

- 10.1 Introduction to HTML
- 10.2 Types of Tags
- 10.3 Basic Structure of HTML
- 10.4 Character Formatting (Paragraphs, Heading, Text format)
- 10.5 Create an Ordered and Unordered List
- 10.6 Insert Images and Objects
- 10.7 Create Hyper Link
- 10.8 Create Table
- 10.9 Design Frames and Form
- 10.10 Concept of CSS and Script Language
- 10.11 Webpage Design and Editing Tools
- 10.12 Project Work on Web Page

UNIT-11 Final Project Work

- 11.1 Project Work on Webpage or Spread Sheet
- 11.2 Documentation of the Project

Model Question 2067

Time : 3 hrs.

Full Marks : 75

Pass Marks : 27

Group 'A'
(Long Answer Questions)

Attempt all questions.

3×10=30

1. Draw a well-labeled diagram of typical architecture of a computer system and explain the main function of Control Unit and ALU. [4+3+3] [From unit 5]
2. (a) What is an operating system ? Explain any three functions of an operating system. [1+6] [From unit 6]
- (b) The 'WiMP' environment is much more user-friendly why ? [3] [From unit 6]

Or

- (a) What is cell addressing and explain different types of cell addressing used in Spreadsheet. [5] [From unit 8]
- (b) Explain about the following HTML tag with example: <A>, <input> [5] [From unit 10]
3. (a) Define flow-chart and pseudo-code. Explain their significance in programming. [5] [From unit 7]
- (b) Write a pseudo-code to accept any three numbers and output the largest among them. [5] [From unit 7]

Group 'B'
(Short Answer Questions)

Attempt any Nine questions.

9×5=45

4. Classify the computers according to their generation based on the technology used. [5] [From unit 1]
5. Differentiate between analogue and digital computer, explain with examples. [5] [From unit 2]
6. What do you mean by number system ? Why do digital computers use binary numbers for their operation ? [2+3] [From unit 3]
7. Convert these number [5] [From unit 3]
 - a) $(126)_{10} = (?)_2$
 - b) $(11011)_2 = (?)_{10}$
 - c) $(57)_8 = (?)_2$
 Perform following operations

- a) 1011 - 1001
b) 1110 + 1110
8. State the Demorgan's theorem and verify it. [5] [From unit 4]
9. What are logic gates ? Construct the truth table of NOR operation. [5] [From unit 4]
10. Write short notes on (any two): [5] [From unit 5]
(i) IDE (ii) SCSI (iii) Wave Camera
11. What are uses of internet ? Write any five search engine name. [5] [From unit 9]
12. Differentiate between System Software and Application Software with examples. [5] [From unit 5]
13. What are DTP features in MS-Word ? Write three features of Presentation Packages. [2+3] [From unit 8]
14. Write an algorithm and flow chart to print the word "Hello" ten times using "while loop". [5] [From unit 7]

Exam Questions

Unit 1: Introduction and Evolution of Computer

1. Discuss about how the development of the PCs (Personal Computer) has extended the use of computer at present days. [Group-A, Q.N. 3, 2058]
2. Explain the evolution of computer describing the technologies used in different generations. [Q.N. 1, 2059]
3. Compare the distinctions between third and fourth generation computers. [Q.N. 4, 2060]
4. What do you mean by the generation of computer ? Explain the characteristics of third generation computers. [Q.N. 4, 2061]
5. Write brief notes on the achievement of the following computer scientists.
(a) Howard Aiken (b) Herman Hollerith [Q.N. 4, 2062]
6. Describe at least five ways in which information technology can help students studying subjects other than computing. [Q.N. 3, 2062]
7. State the characteristics of the 4th generation computers. 5 [Q.N. 4, 2064]
8. Explain any five areas of computer applications 7.5 [Q.N. 3, 2064]
9. What are the application areas of computer ? Explain in detail. 12.5 [Q.N. 3, 2065]
10. Explain the different generation of computers. 5 [Q.N. 9, 2065]
11. Discuss the generation of computers. 5 [Q.N.5, 2066]
12. What do you mean by generation of computer? Explain the technology used in different generation of computers. 5+7.5 [Q.N. 3, 2067]
13. What are the application areas of computer ? Explain in brief. 2+3 [Q.N. 5, 2067]
14. Describe the usage of computer in five different areas of real time applications. 10 [Q.N.4,2068]
15. Explain the technologies used in different generations of computer. 5 [Q.N.6,2068]
16. Write short note on:
(a) Charles Babbage [Q.N. 13(a), 2064]
17. What is computer generation? Explain the features of first and second generation computer. 2+8 [Q.N. 4, Supp. 2068]
18. Why computer is known as versatile and diligent device? Explain. 5 [Q.N. 5, 2069]
19. Explain any five fields of usage of computer in present days. 10 [Q.N. 4, Supp. 2069]
20. Explain the technologies used in different generations of computer. 5 [Q.N. 5, Supp. 2069]
21. Describe the terms "Hardware", "Software" and "Firmware". 5 [Q.N. 12, Supp. 2069]
26. Describe the major characteristics of forth generation computer. 5 [Q.N. 5, 2070 'C']

27. Differentiate between second and third generation computer. 5 [Q.N. 10, 2070 'D']
28. Differentiate between third and fourth generation computer. 5 [Q.N. 11, 2071]

Unit 2: Classification of Computer

1. Compare and contrast Analogue and Digital computer with appropriate examples. [Group-B, Q.N. 1, 2057]
2. Write short notes on: (a) Microcomputer [Group-B, Q.N. 1(a), 2058]
(b) Super computer [Group-B, Q.N. 1(b), 2058]
3. Differentiate between analog and digital computers. [Q.N. 6, 2060]
4. What are super computers and explain their applications in real life situation. [Q.N. 6, 2061]
5. Differentiate between "Mini" and "Mainframe" computers. 5 [Q.N. 5, 2064]
6. Differentiate between analog and digital computers. 2.5+2.5 [Q.N. 7, 2065]
7. Differentiate between Mini and Mainframe computers. 2.5+2.5 [Q.N. 6, 2066]
8. What are the super computers ? Explain their applications in real life situation. 2+3 [Q.N. 4, 2067]
9. What is super computer ? Explain its application in real life situation. [Q.N. 5, 2068] 1+4
10. What is mobile computing ? Explain the importances of mobile computing in communication. [Q.N. 11, 2068]
11. Differentiate between mainframe computer and personal computer. [Q.N. 11(Or), 2068] 5
12. What is mobile computing? Explain. 5 [Q.N. 5, Supp. 2068]
13. Differentiate between analog and digital computer. 5 [Q.N. 5(Or), Supp. 2068]
14. What is mobile computing? Explain. 5 [Q.N. 6, 2069]
15. Differentiate between analog and digital computer. 2.5+2.5 [Q.N. 6(Or), 2069]
16. List any five features of mobile computing. 5 [Q.N. 6, Supp. 2069]
17. Classify the computers on the basis of size. [Q.N. 6(Or), Supp. 2069]
18. Explain the advantages of mobile computing. 5 [Q.N. 6, 2070 'C']
19. Describe the application areas of super computer. 5 [Q.N. 6(Or), 2070 'C']
20. Explain the importance of mobile computing. 5 [Q.N. 7, 2070 'D']
21. Differentiate between analog and digital computer. 5 [Q.N. 7(Or), 2070 'D']
22. Explain the importance of mobile computing. [Q.N. 6, 2071]
23. Differentiate between Mini and Mainframe computer. 5 [Q.N. 6(Or), 2071]
24. Write short notes on:
 - (a) Analog computer. [Q.N. 10(a), 2062]
 - (b) Micro computer. [Q.N. 10(b), 2062]
 - (c) IBM PC and IBM compatibles [Q.N. 4(a), 2063]
 - (d) Digital computers [Q.N. 4(b), 2063]

Unit 3: Number System and Their Conversion

1. Convert 333_{10} Denary number into Hexadecimal and back to base two number system. [Group-B, Q.N. 2, 2057]
2. Convert the following numbers according to the given instruction
 - a. 240_{10} into Octal Number [Group-B, Q.N. 2(a), 2058]
 - b. ABC_{16} into Binary number [Group-B, Q.N. 2(b), 2058]
3. What is octal number system? Convert 356_{10} into base 8. [Q.N. 8, 2059]
4. What is binary number system ? Convert 520_{10} into base 16. [Q.N. 7, 2060]
5. What is Hexadecimal number system ? Convert $11\ 10\ 11_2$ into base 16. [Q.N. 5, 2061]
6. What is binary number system ? Convert $(A5B)_{16}$ into decimal number. [Q.N. 9, 2062]

7. What is hexadecimal number system ? Convert 637_{10} into hexadecimal system. [Q.N. 11, 2063]
8. What is binary number ? Convert $(BBA)_{16}$ into binary. 2+3 [Q.N. 6, 2064]
9. What is Hexadecimal number ? Convert $(BCA)_{16}$ Hexadecimal number into base 8 number system. 2+3 [Q.N. 8, 2065]
10. What is binary number system? Convert $(BEEF)_{16}$ into binary. 2+3 [Q.N.7, 2066]
11. What is hexadecimal number ? Convert $(B8C)_{16}$ Hexadecimal number into base 8 number system. 2+3 [Q.N. 7, 2067]
12. What is hexadecimal number ? Convert $(ABC)_{16}$ hexadecimal number into $(\dots\dots)_8$ octal number. [Q.N.7,2068] 1+4
13. Perform the following: 2.5+2.5
(a) $11111 - 10001$ [Q.N.15(a),2068]
(b) $1111 + 1111$ [Q.N.15(b),2068]
14. What is octal number system? Convert $(AB5)_{16}$ into octal number system. 1+4 [Q.N. 6, Supp. 2068]
15. Perform the following operation: 2.5+2.5
(a) $1011 - 1001$ [Q.N. 15(a), Supp. 2068]
(b) $1110 + 1110$ [Q.N. 15(b), Supp. 2068]
16. Convert $(110111101)_2$ binary number into octal number. 5 [Q.N. 7, 2069]
17. Subtract $(1100)_2$ from $(1111)_2$ 1^s and 2^s complement method. 2.5+2.5 [Q.N. 14, 2069]
18. Convert $(5634)_8$ octal number into binary number. 5 [Q.N. 7, Supp. 2069]
19. Subtract $(1010)_2$ from $(1011)_2$ using 1^s and 2^s complement method. 2.5+2.5 [Q.N. 14, Supp. 2069]
20. What is octal number system? Convert $(BAC)_{16}$ hexadecimal number into binary number system. 1+4 [Q.N. 7, 2070 'C']
21. Subtract $(11111)_2$ from $(11000)_2$ using 1^s and 2^s complement method. 5 [Q.N. 13, 2070 'C']
22. What is number system? Convert $(111111)_2$ binary number into octal number. 1+4 [Q.N. 5, 2070 'D']
23. Subtract $(111)_2$ from $(1000)_2$ using 1^s and 2^s complement methods. 2.5+2.5 [Q.N. 12, 2070 'D']
24. What is octal number? Convert $(567)_8$ number into hexadecimal number. 1+4 [Q.N. 7, 2071]
25. Subtract $(10001)_2$ from $(11011)_2$ using 1^s and 2^s complement method. 1+4 [Q.N. 13, 2071]

Unit 4: Logic Function and Boolean Algebra

1. Define Boolean functions. Construct truth table for AND operation of Boolean algebra. [Group-B, Q.N. 5, 2057]
2. Construct the truth table of the AND and OR operations of Boolean algebra. [Group-B, Q.N. 10, 2058]
3. Write truth table for NAND operation of Boolean algebra. [Q.N. 6, 2059]
4. Write truth table for NOR operation of boolean algebra. [Q.N. 8, 2060]
5. Construct truth table for NAND operation. [Q.N. 12, 2061]
6. Define a NOR gate and draw its logic symbol. [Q.N. 8, 2062]
7. What is NOR gate and construct its truth table. [Q.N. 9, 2063]
8. Construct the truth table of XOR and XNOR operations of Boolean algebra. 2.5+2.5 [Q.N. 7, 2064]
9. What are logic gates ? Differentiate between "NAND" and "NOR" gate with truth tables. 2+3 [Q.N. 5, 2065]
10. What are the logic gates ? Explain the NAND gate with truth table. 2+3 [Q.N.10, 2066]
11. What are the computer gates ? Differentiate between NAND and NOR gate with an example. 2+3 [Q.N. 6, 2067]

12. What is boolean algebra ? Differentiate between NAND and NOR gate with truth table. [Q.N.8,2068]1+4
13. What is truth table? Differentiate between OR and AND gate. 1+4 [Q.N. 7, Supp. 2068]
14. What is Boolean algebra? Describe AND gate, OR gate, NOT gate and NAND gate with gate symbol and Truth Table. 2+8 [Q.N. 4, 2069]
15. Differentiate between NAND and NOR gate with truth table.5[Q.N. 9, Supp. 2069]
16. Describe any five logic gates with Truth Table and gate symbol. 10[Q.N. 1, 2070 'C']
17. What is logic gate? Describe any four logic gates with truth table and gate symbol. 2+8 [Q.N. 2, 2070 'D']
18. Describe any five logic gates with truth table and gate symbol. 10 [Q.N. 2, 2071]

Unit 5: Computer Systems

1. What do you understand by storage media ? Why CD ROMs are more reliable than the floppy diskettes ? [Group-B, Q.N. 3, 2057]
2. Define the term computer peripheral. Discuss about different types of printers with their merits and demerits. [Group-B, Q.N. 3, 2058]
3. Write the importance of primary and secondary storage in a computer system. [Group-B, Q.N. 7, 2058]
4. With a logical structural diagram, explain functions of elements of a computer system. [Q.N. 2, 2059]
5. What is a "bus" in computer architecture? [Q.N. 4, 2059]
6. Distinguish between the terms. 'Hardware', 'Software' and 'Firmware'. [Q.N. 7, 2059]
7. What do you mean by 'Volatility'? Explain RAM and ROM with the concept and term: [Q.N. 9, 2059]
8. What is a purpose of a 'MODEM' and where it could be used? [Q.N. 10, 2059]
9. Show with reference to a block diagram, the structure of a digital computer system and the inter-connection of various units. Explain the functions of various units briefly. [Q.N. 1, 2060]
10. Explain the terms hardware interrupts and software interrupts. [Q.N. 5, 2060]
11. Write short notes on touch pads and light pens. [Q.N. 9, 2060]
12. Describe the terms spooling and buffering. [Q.N. 12, 2060]
13. Discuss the term computer architecture. Draw block diagram and explain the main components of a computer system. [Q.N. 2, 2061]
14. What do you mean by the term 'Virtual memory' ? How does it differ from 'main memory' and 'secondary memory' ? Discuss. [Q.N. 3, 2061]
15. Describe the differences between serial and parallel interfaces. [Q.N. 7, 2061]
16. What are the main types of memory in a computer, and explain how do they differ from one another ? [Q.N. 2, 2062]
17. Differentiate between impact and non impact printers. [Q.N. 5, 2062]
18. Explain work done by the control unit and ALU of a computer. [Q.N. 12, 2062]
19. Explain the role of memory in a computer and differentiate between main memory and auxiliary storage. [Q.N. 2, 2063]
20. What do you mean by peripherals ? Differentiate between impact and non-impact printers. [Q.N. 3, 2063]
21. Differentiate between the terms hardware, software and firmware. [Q.N. 5, 2063]
22. Differentiate between compiler and interpreter. [Q.N. 8, 2063]
23. Explain briefly the functions of input unit and control unit of a computer. [Q.N. 12, 2063]
24. What is memory ? Differentiate between primary and secondary memory. Why hard disk is popular than floppy disk ? Explain. 2.5+5+5 [Q.N. 2, 2064]
25. What do you mean by system software and application software ? 5 [Q.N.3, 2064]
26. Explain the functions of .CPU. 5 [Q.N. 8, 2064]
27. What is an output device ? Differentiate between hardcopy and softcopy output. 1+4 [Q.N. 9, 2064]

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28. Explain the components of computer system with block diagram. 12.5 [Q.N. 2, 2065]
29. What is memory ? Explain the main memory and secondary memory. 1+4 [Q.N. 6, 2065]
30. Differentiate between Impact and Non-impact printers. 2.5+2.5 Q.N. 12, 2065]
31. Draw block diagram and explain the main components of a computer system. 12.5[Q.N.3, 2066]
32. What is printer? Differentiate between soft copy and hard copy output. 5[Q.N.4, 2066]
33. What is memory? Differentiate between primary and secondary memory. 1+4[Q.N.11, 2066]
34. What is bus in computer architecture ? Explain. 5[Q.N.12, 2066]
35. Define computer architecture. Draw a block diagram of computer system along with logical connections. Explain each block in detail. 5+7.5 [Q.N. 1, 2067]
36. Differentiate between impact printers and non-impact printers. 5 Q.N. 9, 2067]
37. What is output ? Distinguish between CRT monitor and LCD monitor. 1+4 [Q.N. 10, 2067]
38. Define software. Explain the different types of software in detail. 1+4 [Q.N. 11, 2067]
39. Differentiate between RAM and ROM. 5[Q.N. 12, 2067]
40. Define memory. Explain the types of memory in details. [Q.N.3,2068]2+8=10
41. Define the term "BUS". Explain different types of BUS. [Q.N.10,2068]2+3
42. What is an output device ? Differentiate between Impact and Non-Impact printers with examples. [Q.N.12,2068]1+4
43. What is computer system? Draw block diagram of digital computer. Explain. 2 + 8 [Q.N. 1, Supp. 2068]
44. What is cache memory? How it increases the performance of computer? 1+4 [Q.N. 12, Supp. 2068]
45. Differentiate between compiler and interpreter. 5 [Q.N. 13, Supp. 2068]
46. What is memory in the computer system? Explain primary and secondary memory. 2+8 [Q.N. 2, 2069]
47. What is BUS in terms of computer architecture? Explain. 5[Q.N. 8, 2069]
48. Differentiate between Impact and Non-Impact printers with examples. 2.5+2.5 [Q.N. 9, 2069]
49. What is CPU? Write down the functions of CPU. 1+4[Q.N. 12, 2069]
50. What is computer system? Explain the major units of computer system. 2 + 8[Q.N. 2, Supp. 2069]
51. What is laser printer? List the features of laser printer. 1+4[Q.N. 8, Supp. 2069]
52. Describe the major units of computer system with logical diagram. 10 [Q.N. 2, 2070 'C']
53. Differentiate between primary and secondary memory with examples. 5[Q.N. 8, 2070 'C']
54. What is laser printer? List out the major features of laser printer. 1+4 [Q.N. 9, 2070 'C']
55. What is computer architecture and computer organization? Describe the different units of computer system. 2+8 [Q.N. 3, 2070 'D']
56. What is memory? Differentiate between SRAM and DRAM. 1+4 [Q.N. 6, 2070 'D']
57. What is an application program? List the major features of application program. 1+4 [Q.N. 9, 2070 'D']
58. Describe the Non-Impact printers with examples. 5 [Q.N. 13, 2070 'D']
59. What is computer architecture? Describe different units of computer system. 2+8[Q.N. 1, 2071]
60. What is memory? Differentiate between Primary and Secondary memory. 1+4 [Q.N. 5, 2071]
61. Describe the Impact Printers with examples. 5 [Q.N. 12, 2071]
62. Define the following terms. 2.5+2.5
a) utility software [Q.N. 14(a), Supp. 2068]
b) system files [Q.N. 14(b), Supp. 2068]
63. Write short notes on: 2.5+2.5
(a) MICR [Q.N. 13(b), 2064]

(b)	Laser printer	[Q.N. 13(c), 2064]
(c)	Scanner	[Q.N. 13(a), 2065]
(d)	Light Pen	[Q.N. 13(b), 2065]
(e)	Laser Printer	[Q.N. 13(c), 2065]
(f)	Joystick	[Q.N.13 (a), 2066]
(g)	Modem	[Q.N.13 (b), 2066]
(h)	Cache Memory.	2.5[Q.N. 13(b), 2067]
(i)	Compiler versus Interpreter.	2.5 [Q.N. 13(c) 2067]
(j)	Modem	[Q.N.14(a),2068]
(k)	MICR	[Q.N.14(b),2068]
(l)	Modem	[Q.N. 15(i), 2069]
(m)	Trackball	[Q.N. 15(ii), 2069]
(n)	Memory	[Q.N. 15(a), Supp. 2069]
(o)	MICR	[Q.N. 15(b), 2070 'C']
(p)	Bar Code Reader	[Q.N. 15(a), 2070 'D']
(q)	MICR	[Q.N. 15(a), 2071]

Unit 6: Operating System

- "An operating system is an interface between human operators and an application software". Justify this statement with examples of operating systems known to you. [Group-A, Q.N. 2, 2057]
- Distinguish between on-line and real time processing. What applications would you suggest appropriate for real time processing ? [Group-B, Q.N. 6, 2057]
- Discuss about the advantages of GUI operating system (MS-Windows) over Text based operating system (DOS). [Group-B, Q.N. 4, 2058]
- Distinguish between batch processing of on-line processing. [Q.N. 5, 2059]
- What is an operating system ? Why is GUI operating system more popular than text based operating system ? Justify clearly. [Q.N. 3, 2060]
- What is an operating system ? Explain its major functions. [Q.N. 11, 2061]
- What do you mean by data sequencing ? Differentiate between random access and sequential access. [Q.N. 13, 2061]
- Define an operating system. What is its purpose ? List the functions. [Q.N. 1, 2062]
- What is an operating system (OS) ? Explain why GUI OS is more popular than text based OS. [Q.N. 1, 2063]
- Explain the importance of an operating system. Differentiate between GUI (Graphical User Interface) and CUI (Character User Interface) operating system with examples. 6+6.5 [Q.N. 1, 2064]
- What is an operating system ? Explain the functions of an operating system. 5+7.5 [Q.N. 1, 2065]
- What is software ? Why graphical user interface (GUI) operating system is more popular than character user interface (CUI) operating system ? Justify. 2+3 [Q.N. 11, 2065]
- What is an operating system? Explain its major functions. 5+7.5[Q.N.2, 2066]
- What is an operating system ? Explain the different types of operating system with suitable examples. 5+7.5 [Q.N. 2, 2067]
- What is an operating system ? Explain the functions of operating system in brief. [Q.N.2,2068]2+8=10
- What is OS? Explain the functions of OS. 2+8 [Q.N. 2, Supp. 2068]
- Describe the types of computer booting. 5 [Q.N. 14, 2070 'C']
- What is an operating system? Explain the functions of operating system. 2 + 8 = 10[Q.N. 1, 2069]
- What is operating system? Describe the types of operating system on the basis of process. 2 + 8[Q.N. 1, Supp. 2069]
- What is an operating system? Explain the types of operating system. 2+8 [Q.N. 4, 2070 'D']

21. What is operating system? Describe GUI and CUI operating systems in detail. 2+8 [Q.N. 3, 2070 'C']
22. What is computer booting? Describe the types of computer booting. 5 [Q.N. 14, 2070 'D']
23. What is an operating system? Describe GUI and CUI based operating systems with merits and demerits. 2+8 [Q.N. 4, 2071]
24. What is booting? Describe the types of computer booting. 1+4 [Q.N. 14, 2071]

Unit 7: Programming Concepts & Logics

1. What do you understand by 4GL ? Give examples. [Group-B, Q.N. 4, 2057]
 2. Draw a diagram showing semantics of case statement and syntax in structure English. [Group-B, Q.N. 8, 2057]
 3. What is flowchart? Write the advantages of drawing flowcharts. [Group-B, Q.N. 6, 2058]
 4. Logical errors are difficult to find than the syntax errors. Justify. [Group-B, Q.N. 8, 2058]
 5. Distinguish the terms "Operation", "Operator" and "Operand" with example. [Q.N. 11, 2059]
 6. Draw a flowchart to test condition 'if-then-else' in program design process. [Q.N. 12, 2059]
 7. Explain the difference between syntax and semantics. [Q.N. 13, 2059]
 8. What is program logic ? What are symbols used to draw a flowchart ? [Q.N. 10, 2060]
 9. What are the two types of programming errors ? How are they detected ? [Q.N. 13, 2060]
 10. What is program documentation ? Why documentation is important for the successful implementation of a system ? [Q.N. 1, 2061]
 11. What is flow chart ? Differentiate between program flow chart and system flow chart. [Q.N. 9, 2061]
 12. What is program debugging ? Differentiate between 'syntax error' and 'logical error'. [Q.N. 10, 2061]
 13. What are the characteristics necessary for programming to be considered as a high level language ? [Q.N. 6, 2062]
 14. What is an algorithm ? Write an algorithm to compute a sales person's commission based on a sales volume shown below: [Q.N. 7, 2062]
- | Sales Amount | Commission (% of sales) |
|--|-------------------------|
| (a) Under Rs. 500/- | 2% |
| (b) Rs. 500 or more but under Rs. 5000 | 5% |
| (c) Rs. 5000 and above | 10% |
15. Define flow chart and algorithms with examples. [Q.N. 7, 2063]
 16. What is an algorithm ? Explain the advantages of an algorithm. 2+3 [Q.N. 10, 2064]
 17. What is programming ? Differentiate between flowchart and algorithms with suitable examples. 1+2+2 [Q.N. 4, 2065]
 18. What are the programming languages? Explain each of them in detail. 5+7.5 [Q.N.1, 2066]
 19. Differentiate between algorithm and flowchart with suitable examples. 2.5+2.5 [Q.N.8, 2066]
 20. What is programming ? Differentiate between flowchart and algorithms. 1+4 [Q.N. 8, 2067]

21. What is programming language? Explain the types of programming languages with merits and demerits. [Q.N.1,2068]2+8=10
22. What is programming language? Define machine level, low level and high level programming language. 2 + 8 [Q.N. 3, Supp. 2068]
23. Differentiate between algorithm and flow chart. 5 [Q.N. 11, Supp. 2068]
24. What is programming? Differentiate between compiler and interpreter. 2 + 8 = 10 [Q.N. 3, 2069]
25. Explain the types of programming errors with examples. 5 [Q.N. 13, 2069]
26. What is programming language? Explain different types of programming languages. 2 + 8 [Q.N. 3, Supp. 2069]
27. What are programming errors? Explain. 5 [Q.N. 13, Supp. 2069]
28. What is programming? Describe the types of programming languages with appropriate examples. 2+8 [Q.N. 4, 2070 'C']
29. Differentiate between logical error and syntax error with examples. 5 [Q.N. 12, 2070 'C']
30. Explain different types of programming languages with their merits and demerits. 10 [Q.N. 1, 2070 'D']
31. Describe algorithm and flowchart with examples. 5 [Q.N. 8, 2070 'D']
32. Write short notes on:
 - (a) Flowchart [Q.N. 15(a), 2070 'C']
33. Describe different types of language processors with examples. 10 [Q.N. 3, 2071]
34. Describe algorithms and flow chart with examples. 1+4 [Q.N. 9, 2071]

Unit 8: Application Package

1. What do you understand by formatting a document? Give the significance of spell checker and thesaurus of modern word processing packages. [Group-B, Q.N. 9, 2058]
2. Explain the following terms used in different software packages:
 - (a) Cut and Paste. (b) Text justification. [Q.N. 13, 2062]
3. What do you mean by word processing? Distinguish between word processing and data processing software. [Q.N. 6, 2063]
4. Explain briefly the followings:
 - a. Document formatting in word processing package [Q.N. 13(a), 2063]
 - b. Cell referencing in spread sheet package [Q.N. 13(b), 2063]
5. What is a spread sheet package? State the advantages of spread sheet package. 2+3 [Q.N. 11, 2064]
6. What is word processor? State the advantages of word processor in document designing. [Q.N.9(Or),2068]1+4
7. What is word processing? Explain the features of word processing package. 1+4 [Q.N. 8, Supp. 2068]
8. What is spreadsheet? Explain the application of spreadsheet. 1+4 [Q.N. 9(Or), Supp. 2068]
9. Explain the features of word processor. 2.5 + 2.5 [Q.N. 10(Or), 2069]
10. Explain the features of spread sheet package. [Q.N. 10(Or), Supp. 2069]
11. Describe the major features of spread sheet. 5 [Q.N. 10(Or), 2070 'C']

12. What is an application program? List the major features of spread-sheet. 1+4 [Q.N. 8, 2071]
13. Write short notes on:
 (a) Word processor [Q.N. 15(b), Supp. 2069]

Unit 9: Internet and E-mail

1. What is internet ? List out the positive and negative impacts of internet in our society. [Q.N.9,2068]1+4
2. What is internet? Write down the used of internet. 1+4
 Q.N. [10, Supp. 2068]
3. What is internet? Write down the uses of internet. 1+4 [Q.N. 10, 2069]
4. What is web page? List the features of web page. 1+4 [Q.N. 11, 2069]
5. List the positive and negative impacts of internet in our daily life.
 5[Q.N. 10, Supp. 2069]
6. List out the advantages and disadvantages of Internet. 5 [Q.N. 10, 2070 'C']
7. Write short notes on:
 (a) Uses of Internet [Q.N. 15(b), 2070 'D']
 (b) Uses of Internet [Q.N. 15(b), 2071]

Unit 10: Web Page Designing

1. Define HTML. Explain the importances of HTML in web page designing. [Q.N.13,2068]1+4
2. What is HTML? Write its importance in web page designing. 1+4 [Q.N. 9, Supp. 2068]
3. Define **HTML**. Explain the uses of **HTML** in web page designing. 1+4 [Q.N. 11, Supp. 2069]
4. What is HTML? Describe the types of links which are used in web page design. 1+4 [Q.N. 11, 2070 'C']
5. What is HTML? Describe the objectives of HTML. 1+4 [Q.N. 11, 2070 'D']
6. What is HTML? Describe the major feature of HTML. 1+4 [Q.N. 10, 2071]