

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1(Section-A) which is compulsory and selecting two questions each from Section B-C.

x-x-x

Section A

Q1

(5*2=10)

1. State difference between compiler and interpreter.
2. Define the role of linker and loader.
3. Which operation is used to add more contents to existing file? Give its syntax.
4. Differentiate RAM and ROM
5. Static v/s dynamic memory allocation

Section B

Q2 a) Write a program for the following cases to calculate an EMI amount for a customer's purchase on loan. (5)

No. of years	EMI
1	5% of loan
2	10% of loan
3	15% of loan
4	20% of loan
5	25% of loan

b) Write a program to find the sum of diagonal elements of an array. (5)

Q3 a) Draw a neat diagram for block structure of a computer system and explain in detail the salient features of each component. (5)

b) What is the significance of decision making and iteration statements? Write the program code to find the sum of odd nos and even nos from 1 to 50. (5)

Q4 a) What is the purpose of a storage class? Explain its various types. (4)

b) For the following list of elements, write the procedure and step by step to sort the numbers by insertion sort algorithm. (6)

15, 30, 12, 90, 67, 78, 21

Section C

Q5 a) What is the mechanism of call by value and call by reference method. Justify with one example. (6)

b) Differentiate among union and structure? How they are stored in memory. (4)

Q6 a) Create a structure for an employee to store the basic information. Create functions to enter details and calculate the salary of each employee. Implement the structure for 50 employees. (5)

b) Discuss the different types of random access and sequential access operations on files. (5)

Q7 Write note on following: (2.5*4=10)

- a) Operations on pointers
- b) Recursion
- c) Command line arguments
- d) Malloc and free operations