Total No. of Questions : 5]

SEAT No. :

PF-12256

[Total No. of Pages : 2

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F.E.

ESC-105-COM : FUNDAMENTALS OF PROGRAMMING LANGUAGES

(2024 Pattern) (Semester - I/II)

Time : 2½ Hours] *[Max. Marks : 60*

Instructions to the candidates:

1) ***All five questions are compulsory, and for each question students must attempt any three out of the six sub-questions.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Assume suitable data, if necessary.***

Q1) **Solve any three :**

a) Define an algorithm and list any two characteristics. **[4]**

b) Describe flowchart and explain its symbols used in program design. **[4]**

c) Differentiate between keywords and identifiers in C. **[4]**

d) List different C tokens and identify any two with examples. **[4]**

e) Differentiate between algorithm and flowchart. **[4]**

f) Describe how values are assigned to variables in C with examples. **[4]**

Q2) **Solve any three :**

a) Define arithmetic operators and list any four arithmetic operators in C. **[4]**

b) Explain logical operators with truth table. **[4]**

c) Explain the conditional (ternary) operator with syntax and example. **[4]**

d) Define increment and decrement operators. **[4]**

e) Describe relational operators and their use in decision making. **[4]**

f) Explain operator precedence and associativity with example. **[4]**

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Q3) **Solve any three :**

a) Explain the working of if-else statement with example. **[4]**

b) Explain break and continue statements with examples. **[4]**

c) Write a C program to print numbers from 1 to 10 using for loop. **[4]**

d) Describe the switch statement and explain the role of break. **[4]**

e) Explain the working of for loop with syntax and example. **[4]**

f) Write a C program to find the largest of three numbers using else-if ladder. **[4]**

Q4) **Solve any three :**

a) Explain one-dimensional arrays in C with example. **[4]**

b) Differentiate between character array and string in C with examples. **[4]**

c) Write a C program to check whether a given string is a palindrome. **[4]**

d) Differentiate between one-dimensional and two-dimensional arrays. **[4]**

e) Describe string handling in C and explain any three string functions. **[4]**

f) Write a C program to calculate the sum and average of elements in a one-dimensional array. **[4]**

Q5) **Solve any three :**

a) Explain the need for user-defined functions in C. **[4]**

b) Differentiate between array and structure. **[4]**

c) Write a C program to swap two numbers using a function. **[4]**

d) Explain structure in C and list its applications. **[4]**

e) Describe functions with arguments and return values with example. **[4]**

f) Write a C program to find factorial of a number using recursion. **[4]**

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