[6401]-2408
F.E.
ESC-105-COM : FUNDAMENTALS OF PROGRAMMING LANGUAGES
(2024 Credit Pattern) (Semester - I/II)

Time : 2½ Hours]   *[Max. Marks : 70*

Instructions to the candidates:

1) Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8, Q.9 or Q.10.
2) Figure to the right indicates full marks.
3) Neat diagrams must be drawn wherever necessary.
4) Assume suitable data, if necessary.

Q1) a) List the data types in C and provide one example of each. **[3]**

b) Define flowchart. Explain the symbols used in a flowchart. **[3]**

c) List the different C tokens and provide an example for each type. **[4]**

d) Explain symbolic constant with example. **[4]**

OR

Q2) a) Define the following terms: Constant and Variable. **[3]**

b) Define the following Storage classes in C: auto, extern and static. **[3]**

c) Explain the keywords in C programming and give examples of reserved keywords. **[4]**

d) Create a simple flowchart to depict the steps involved in calculating the area of a rectangle. **[4]**

Q3) a) What is arithmetic operator? Explain with example. **[3]**

b) List all the logical operators in C and provide an example of each. **[3]**

c) Explain conditional (ternary) operator (? :) in C. **[4]**

d) Explain with an example the usage of shorthand assignment operators. **[4]**

OR

Q4) a) What is special operator in C. Explain with an example. **[3]**

b) List any three bitwise operators in C and provide an example of each. **[3]**

c) Discuss the increment and decrement operator in C. **[4]**

d) Explain Operator Precedence in C? **[4]**

P.T.O.

Q5) a) Explain the difference between an if statement and an if-else statement with examples. **[4]**

b) Create a program that uses a switch statement to perform basic arithmetic operations (addition and subtraction) based on user input. **[5]**

c) Write a Program in C to print the first 10 even numbers using for loop. **[5]**

OR

Q6) a) Explain the syntax and usage of the goto statement in C with example. **[4]**

b) Explain break statement in loops with an example. **[5]**

c) Explain while loop with an example that prints numbers from 1 to 10. **[5]**

Q7) a) Explain how to declare and initialize a one-dimensional array in C, with an example. **[4]**

b) Compare the strcpy() and strncpy() functions. Give suitable example. **[5]**

c) Write a program to concatenate two strings using the strcat() function. **[5]**

OR

Q8) a) Explain how to declare and initialize a two-dimensional array in C, with an example. **[4]**

b) Explain the string functions- strcpy, strlen, strcmp, strncmp, strcat. **[5]**

c) Write a C Program to Check if a Given String is Palindrome. **[5]**

Q9) a) Explain built-in functions and user-defined functions in C programming. **[4]**

b) What is structure? Explain C syntax of structure declaration with example. **[5]**

c) Write a program to declare a structure for an employee with members for name, age and gender. Initialize the structure and print the values. **[5]**

OR

Q10) a) How do we define and call a function in C. **[4]**

b) How do you access structure members in C? Explain with an example. **[5]**

c) Write a C program for addition and subtraction of 2 numbers, using function. **[5]**

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