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Reg. No. :

Code No. : 40375 E

Sub. Code : JMCS 11/
JMSE 11

B.Sc.(CBCS) DEGREE EXAMINATION,
NOVEMBER 2019.

First Semester

Computer Science/Software Engineering – Main

PROBLEM SOLVING TECHNIQUES AND
PROGRAMMING IN 'C'

(For those who joined in July 2016 only)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. An _____ is an effective step-by-step procedure to perform calculation or for the solution of a problem.
 - (a) Algorithm
 - (b) Flow chart
 - (c) Programming Language
 - (d) None

2. Which of the following is not an Input device?
- (a) Printer (b) Scanner
(c) Keyboard (d) Mouse
3. Which of the following is not an assignment operator?
- (a) = (b) +=
(c) >= (d) *>
4. What are the respective minimum sizes (in bytes) of the following three data - types : short, int and long?
- (a) 1,2,2 (b) 1,2,4
(c) 1,2,8 (d) 2,2,4
5. Which of the following is an unconditional control structure?
- (a) if (b) do-while
(c) switch-case (d) goto
6. $n=5$;
 $(n<10)? s=0 : s=1$;
The above expression gives
- (a) $s=0$ (b) $s=1$
(c) $n=5$ (d) $n=10$

7. The default return data type in a "C" function definition is.
- (a) float (b) void
(c) int (d) char
8. Which one of the following is the correct way to declare a pointer?
- (a) *int ptr; (b) int ptr *;
(c) int *ptr; (d) int ptr *
9. The function used to detect the end of file is .
- (a) ferror() (b) Feof()
(c) fget() (d) fputs()
10. The arguments used in the function declaration are referred as arguments.
- (a) actual (b) function
(c) declaration (d) formal

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Answer should not exceed 250 words.

11. (a) Explain the classification of programming language.

Or

- (b) Define Algorithm and flowchart. Describe how it will support for problem solving.

12. (a) Define constants and variables. State the rules with examples.

Or

- (b) What is data types? Describe with examples.

13. (a) Write a C program to print the numbers which are divisible by 5 between 1 to 100.

Or

- (b) Write a C program to accept N numbers from the keyboard and calculate the sum of odd numbers and sum of even numbers in the list.

14. (a) Write a C program to accept several numbers and print the maximum of the using functions.

Or

- (b) Write a C program to count and print the number of vowels present in a given string.

15. (a) Describe pointer expressions with examples.

Or

- (b) Write a C program to create a data file for student data.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)

Answer should not exceed 600 words.

16. (a) Explain the generations and features of good programming languages.

Or

- (b) Explain the types of input devices and classifications of output devices.

17. (a) Explain the use of operators in C with examples.

Or

- (b) Explain the input/output statements with examples.

18. (a) Write a C program to accept five marks and calculate average if each marks ≥ 35 . Also print the grade using

Average marks	Grade
Below 50	E
50-59	D
60-69	C
70-79	B
80 and above	A

Or

- (b) Write a C program to read a set of 'n' integers in an array and print the numbers of
- (i) Positive numbers
 - (ii) Negative numbers
 - (iii) Zeros
 - (iv) Odd numbers
 - (v) Even numbers.

19. (a) Explain the categories of functions with examples.

Or

- (b) Explain structures and unions.

20. (a) Explain the term pointer variable. Give example and write a program to find the factorial of a given number using pointers.

Or

- (b) Explain
- (i) File opening
 - (ii) Input/output operations on files.
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