Avinashilingam Institute for Home Science and Higher Education for Women
(Deemed to be University), Coimbatore-641 043

Bachelor's Degree Examination – November 2018

I Semester

Class : I UG **Time :3 hours**
Major : BCA **Max. Marks: 10**

18BCAC02 – Problem Solving Using C

Part-A **10 x 1=10**

Choose the correct answer

1. Which of the following is the characteristics of a good algorithm?
   a. Precise b. Ambiguous
   c. Finite number of steps d. Logical flow of control

2. Diagrammatic representation of an algorithm is
   a. Data flow diagram b. Flow chart
   c. Algorithm design d. Pseudo code

3. Identify which of the following are declarations
   1. extern int x;
   2, float square (float x) { ... }
   3. double pow(double, double);
   a. 1 b. 2 c. 1 and 3 d. 3

4. Which of the following is the correct order of evaluation for the below expression?
   z = x + y * z / 4 % 2 – 1
   a. * / % + - = b. = * / % + -
   c. / * % - + = d. * % / - + =

5. What will happen if in a C program you assign a value to an array element whose subscript exceeds the size of array?
   a. The element will be set to 0.
   b. The compiler would report an error.
   c. The array size would appropriately grow.
   d. The program may crash if some important data gets overwritten.

6. If the two strings are identical, then strcmp() function returns.
   a. 1 b. -1 c. Yes d. 0

7. The keyword used to transfer control from a function back to the calling function is
   a. return b. continue c. goto d. switch

8. What is the similarity between a structure, union and enumeration?
   a. All of them let you define new arrays
   b. All of them let you define new data types
   c. All of them let you define new pointers
   d. All of them let you define new structures

9. How can you combine the following two statements into one?
   char *p;
   p = (char*) malloc(100);
   a. char p = *malloc(100); b. char *p = (char) malloc(100);
   c. char *p = (char*)malloc(100); d. char *p = (char *)(malloc*)(100);

10. What do the 'c' and 'v' stands for in argc and argv?
    a. 'c' means argument control 'v' means argument vector
    b. 'c' means argument count 'v' means argument vertex
    c. 'c' means argument count 'v' means argument vector
    d. 'c' means argument configuration 'v' means argument visibility

Part B **5 X 6=30**

Answer the following

Answer should not exceed 400 words or two pages

11.a. List the characteristics of an algorithm.

(or)

11.b. Differentiate the Sequence, Selection and Iteration statements.

12.a. What is constant? Explain the constant categories in C with examples.

(or)

12.b. Discuss the types of operators in C language with examples.

13.a. What is an array? How do you declare and initialize it? Explain with example.

(or)

13.b. Write a C program to Find the Frequency of Characters and explain its output.

14. a. Define functions in C. Write its advantages and disadvantages.

(or)

14. b. What is recursion? Give an example.

15. a. What is a pointer? Give a simple example of working with pointers in C.

(or)

15. b. What is file? How do you define and open a file in C? Explain.

Part C **5 x 12=60**

Answer the following

Answer should not exceed 800 words or four pages

16.a. What is an algorithm? Write the advantages and disadvantages of Algorithms with an example.

(or)

16. b. Discuss the advantages and disadvantages of flow charts and pseudo code with examples.

17.a. Sketch the basic structure of a C program with an example.

(or)

17. b. Describe with an example of control statements in C.

18.a. Explain the types of array and illustrate an example of accessing one-dimensional array explain with its output.

(or)

18.b. Discuss character arrays with an example program.

19.a. Explain the categories of user-defined functions with example.

(or)

19. b. How are the structures designed in C language? Explain with an example.

20.a. Explain passing pointers to functions in C.

(or)

20. b. Demonstrate reading and writing of files in C with an example.

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Name and Signature of the Examiner

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