PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION DECEMBER 2019
(First Semester)

Branch - COMPUTER SCIENCE WITH DATA ANALYTICS

PROBLEM SOLVING AND C PROGRAMMING

Time: Three Hours   Maximum: 75 Marks

SECTION-A (10 Marks)
Answer ALL questions
ALL questions carry EQUAL marks   (1 0 x 1 = 10)

1   First step in process of problem solving is to_____
     (i) design a solution   (ii) define a problem
     (iii) practicing the solution (iv) organizing the data

2   Algorithm is made up of_____
     (i)   Sequenceto print data   (ii) selection
     (iii) Repetition   (iv) all of above

3   The format identifier '%i' is also used for_____ data type.
     (i)   Char   (ii) integer
     (iii) float *j*   (iv) double

4   Which keyword is used to come out of a loop only for that iteration?
     (i)   break   (ii) continue
     (iii) return   (iv) None of the mentioned

5   Are logical operator sequence points?
     (i) True   (ii) False
     (iii) Depends on the compiler (iv) Depends on the standard

6   strcat() function adds null character.
     (i)Only if there is space   • (ii) Always
     (iii) Depends on the standard (iv) Depends on the compiler

7   Which among the following is Copying function?
     (i)   memcpyO   (ii) strcopyQ
     (iii) memcopy()   (iv) strxcpy()

8   In C, if you pass as array as an arguments to a function, what actually gets passed.
     (i)   Value of elements in array   (ii) First elements of the array
     (iii) Base address of the array   (iv) Address of the last element off array

9   What will fopen will return, if there is any error while opening a file?
     (i)   Nothing   (ii) EOF
     (iii) NULL   (iv) Depends on compiler

10   User-defined data type can be derived by_____
     (i)   struct   (ii) enum
     (iii) typedef   (iv) All of the above

SECTION -B (25 Marks!
Answer ALL questions
ALL questions carry EQUAL Marks   (5 x 5 = 25)

11 a   How will you analyze the efficiency of an algorithm?
                            OR
   b   How will you find smallest divisor of an integer?

12 a   Analyze the data types with an example.
                            OR
   b   Illustrate the unary operator with an example.

13 a   Explain gets() and puts() functions.
                            OR
   b   Explain Switch statement with an example.

14 a   Explain storage classes with examples.
                            OR
   b   Identify the need of recursion with simple program.

15 a   Identify the use of dynamic memory allocation.
                  *   OR
   b   How will you open and close files? Explain with an example.

SECTION -C (40 Marks)
Answer ALL questions
ALL questions carry EQUAL Marks   (5 x 8 = 40)

16 a   Elaborate factorial computation and prime number generating with example.
                            OR
   b   Explain the Following:
       (i) Program verification (ii) Square root of a number

17 a   Elaborate the types of operator with an example.
                            OR
   b   Explain the various types of arrays.

18 a   Examine the input and output statements,
                            OR
   b   Elaborate the types of conditional statements.

19 a   Explain function and its types with an example.
                            OR
   b   Explain the three types of variables.

20 a   Illustrate Structure and union with same example.
                            OR
   b   Explain file handling with an example.

z-z-z   END