PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
MSc DEGREE EXAMINATION MAY 2018
(First Semester)

Branch –SOFTWARE SYSTEMS
(Five year integrated)

PROBLEM SOLVING TECHNIQUES AND C PROGRAMMING

Time: Three Hours   Maximum: 75 Marks

SECTION -A (30 Marks)
Answer ALL questions
ALL questions carry EQUAL Marks   (5 x 6 = 30)

1   a   Discuss on Top Down designing techniques.
OR
    b   What do you mean by efficiency of Algorithms? How will you analyse it?

2   a   Write an algorithm to raise a number to a large power.
OR
    b   Expound on factoring methods.

3   a   Illustrate the usage of constraints, variables and arrays with an example.
OR
    b   Explain the following with an example :
(i) unary operators   (ii) i/o statements   (iii) conditional operator.

4   a   Give the syntax and example for switch-case statement.
OR
    b   Write short notes on pointers and array of pointers.

5   a   Create a structure for Employee and process it.
OR
    b   Elucidate on Preprocessor.

SECTION -B (45 Marks)
Answer any THREE questions
ALL questions carry EQUAL Marks   (3 x 15 = 45)

6   Write an algorithm and explain the procedure for reversing the digits of a given integer number.

7   Explain and give a pseudocode for finding the square root of a number.

8   Discuss on C library functions.

9   a   Construct a Looping statement (for, while, do-while) to find the maximum of 'n' numbers.   (8)

    b   Demonstrate recursive functions.   (7)

10   Analyze and discuss on File concepts in C.