Code: 13A12101

R13

B.Tech I Year (R13) Supplementary Examinations June 2017
PROGRAMMING IN C & DATA STRUCTURES
(Common to CE, ME, EEE, ECE, EIE and IT)

Time: 3 hours

Max. Marks: 70

PART – A
(Compulsory Question)
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1   Answer the following: (10 X 02 = 20 Marks)
   (a)   Explain C preprocessor directives.
   (b)   What is sorting and what are the different sorting techniques.
   (c)   Define a string and write any two string functions.
   (d)   Write a C program to implement Fibonacci series.
   (e)   Write a C program to print stars in the following format.
            *
            **
            ***
            ****
   (f)   What is the difference between Stack and Queue?
   (g)   What is a file? How to open and close a file.
   (h)   What is Queue? What are the various operations performed in queue?
   (i)   What is a keyword and give some examples.
   (j)   What are binary operators?

PART – B
(Answer all five units, 5 X 10 = 50 Marks)

UNIT - I

2   What is an operator? Explain the arithmetic, relational, logical and assignment operators in C language with appropriate example.

OR

3   What is an algorithm? Write an algorithm for reversing the digits of an integer and checking for palindrome or not?

UNIT - II

4   What is the purpose of a printf() and scanf() statements? Write a C program to find area of a triangle.

OR

5   What are control statements? Explain different loop control statements with examples.

UNIT - III

6   What is an array? Explain declaration, initialization and applications of multidimensional array with an example.

OR

7   What is sorting? Write an algorithm for recursive quick sort and perform quick sort on the following list?
        38 81 22 48 13 69 93 14 45 58 79 72

UNIT - IV

8   What are different dynamic memory allocation functions? Explain its syntax with an example.

OR

9   (a)   How to pass structure to functions? Explain with an example.
    (b)   Briefly write about bitwise operations, macros and command line parameters.

UNIT - V

10   (a)   Explain the operations performed on a circular queue.
    (b)   With an example explain how an infix expression is converted to a postfix expression.

OR

11   What is Stack? Write operations of stack and Write a program to implement stack using linked list.

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