Code: 13A12101

R13

B.Tech I Year (R13) Supplementary Examinations December/January 2014/2015

PROGRAMMING IN C & DATA STRUCTURES

(Common to CE, ME, EEE, ECE, EIE, IT and Ch.E)

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

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1 Answer the following: (10 X 02 = 20 Marks)

(a) Write the syntax of conditional operator and explain its operation with an example.

(b) Define flowchart. Describe the symbols used for representing reading and decision making statements.

(c) What is the difference between getchar( ) & gets( ) and putchar( ) & puts( )?

(d) With an example distinguish between break and continue statement.

(e) What is the output of the following program:

```
#include<stdio.h>
Void main()
{ int a=10,b=30,c=0;
 c= a++;
 c=++b;
printf("\nc=%d",c);
printf("\na=%d,\tb=%d",a--,b);
printf("\na=%d,\tb=%d",a,--b);
 }
```

(f) What is the purpose of strstr()? Give its syntax.

(g) List the operations performed on a file.

(h) Write the output for the following program:

```
#include<stdio.h>
main()
{
int p=4;
int *pt;
int **tp;
clrscr();
pt=&p;
tp=&pt;
printf("p=%d, pt=%d.tp=%d",*pt,p,*(*tp));
 }
```

(i) Define Queue. List the major operations of the queue.

(j) Write the postfix and prefix notations for the following expression: A/B*C+D*E-A*C.

PART – B

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

UNIT - I

2 Explain the phases of the software development life cycle in detail with a neat diagram.

OR

3 Explain various operators in C with suitable examples.

UNIT - II

4 (a) Differentiate between *elseif* and *switch* statements with examples.

(b) What is recursion? What are its advantages?

OR

5 (a) What is a Bug? Explain the techniques used for debugging.

(b) Why should we avoid using *goto* statement in programming? How it is different from *continue* statement? Explain with examples.

Contd. in page 2

R13

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UNIT - III

6 (a) What are the different storage classes in C? Explain.
(b) Write a C program to add two matrices.

OR

7 Write a C program to sort a list of names.

UNIT - IV

8 (a) What are compiler directive statements? List and define the preprocessor statements in C.
(b) Write a C program to copy the contents of one file to another.

OR

9 (a) Explain various operations on pointers with examples.
(b) What are the bitwise operations? Explain with examples.

UNIT - V

10 (a) List and explain the operations on stack.
(b) Write the algorithm for evaluation of postfix expression.

OR

11 Implement queue using linked list.

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