

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)

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

- Write the syntax of conditional operator and explain its operation with an example.
- Define flowchart. Describe the symbols used for representing reading and decision making statements.
- What is the difference between `getchar()` & `gets()` and `putchar()` & `puts()`?
- With an example distinguish between `break` and `continue` statement.
- 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);
}
```

- What is the purpose of `strstr()`? Give its syntax.
 - List the operations performed on a file.
 - 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));
}
```
- Define Queue. List the major operations of the queue.
  - 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**

- Differentiate between `elseif` and `switch` statements with examples.
- What is recursion? What are its advantages?

OR

- What is a Bug? Explain the techniques used for debugging.
- Why should we avoid using `goto` statement in programming? How it is different from `continue` statement? Explain with examples.

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Code: 13A12101

**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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