

F.E. (All Branches) (C/C++) (Sem-II)

Time: 3 hours

Marks: 80

N.B

- (1) Question no. 1 is compulsory.
- (2) Attempt any 3 from the remaining questions.
- (3) Assume suitable data if necessary.
- (4) Figures to right indicate full marks.

Q.1 a. Attempt the Multiple Choice Questions 6

- i) The format identifier "%i" is also used for _____ data type?
(a) char (b) int (c) double (d) float
- ii) Which keyword can be used for coming out of recursion?
(a) break (b) exit (c) return (d) all of above
- iii) What will happen if in a C program you assign a value to an array element whose subscript exceeds the size of array?
(a) The element will be set to 0
(b) The compiler would report an error
(c) The program may crash if some important data gets overwritten
(d) The array size would appropriately grow.
- iv) A pointer is
(a) A keyword used to create variable
(b) A variable that stores address of an instruction
(c) A variable that stores address of other variable
(d) All of the above
- v) In which order do the following gets evaluated
1. Relational
2. Arithmetic
3. Logical
4. Assignment
(a) 2134 (b) 1234 (c) 4321 (d) 3214
- vi) Which of the following cannot be a structure member?
(a) Another structure (b) Function (c) Array
(d) None of the mentioned

b) Find the output of following 4

```
#include<stdio.h>
void main()
{
    int c;
    for(c=1;c<=5;)
    printf("%d",++c);
}
```

ii) How many 'x' are printed by the following code?

```
#include<stdio.h>
void main()
{
    int i=5;
    while(i-- > 0)
    printf("x");
    printf("x");
}
```

- c) Draw a flowchart for printing the sum of even terms contained within the numbers 0-20. 4
- d) Solve the following 6
- i) Convert 238 decimal to octal
- ii) Convert A3D Hexadecimal to decimal
- Q.2 a) Distinguish between 6
- i) While and do-while loop
- ii) break and continue
- b) Write a c program that will convert a decimal number into any base. 6
- c) Write a program to calculate the sum of following series without pow() library function 8
- $S = 1 - x + x^2/2! - x^3/3! + \dots + N$ terms
- Q.3 a) What is an array? What does an array name signify? Can array index be negative? Write a c program to arrange the number stored in an array in such a way that the array will have the odd numbers followed by even numbers. 10
- b) Write a program that accepts a word from the user and prints it in the following way. 10
- For ex. If the word is "STUDY" the program will print it as
- S
ST
STU
STUD
STUDY
- Q.4 a) What is string? Explain the use of gets()? Write a c program that will read a word and rewrite it in alphabetical order. For ex. If the word is "matrix" the program should print "aimrtx". 10
- b) Explain recursion and its advantages? Write a recursive c program to find the factorial of a given number. 10
- Q.5 a) Explain the storage classes with example. 10
- b) Declare a structure to store the information of 10 cricketers. 10
- i. Cricketer name
- ii. Matches Played
- iii. Runs Scored
- iv. Strike rate
- Use a function to display the cricketer information having the maximum strike rate.
- Q.6 a) How do pointers differ from variables in c? Write a c program to add two pointers. 10
- b) What is file? Write a c program that include the menu that must have the following capabilities 10
- i) Enter the several lines of text and store them in a data file.
- ii) Retrieve and display the particular line.
- iii) Delete n lines
