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Paper Code: TCS201

B.Tech
Mid Semester Examination 2019
II Semester
Programming for Problem Solving

Time: 1:30 Hours

MM: 50

Note:

- (i) This question paper contains two sections.
- (ii) Both sections are compulsory.

Section – A

Q1. Fill in the blanks/True-False

(1 X 5 = 5 Marks)

- a) By default function return _____ value.
- b) By default variable comes under _____ storage class.
- c) What will be the output of following code.

```
void fun(int);
void main()
{
    int a=3;
    fun(a);
}
void fun(int a)
{
    if(a>0)
    {
        printf("%d",a);
        fun(a-1);
        printf("%d",a);
    }
}
```

- d) What will be the output of following code.

```
void main()
{
    char ch1[]="Hello";
    char ch2[]="Hello";
    if(ch1==ch2)
    {
        printf("Equal");
    }
    else
    {
        printf("Not Equal");
    }
}
```

- e) What will be the output of following code.

```
void main()
{
    int ar[]={10,20,30,40,50};
    int *p;
    p=a;
    printf("%d",*(p+2));
}
```

Q2. Attempt any five parts.

(3 X 5 = 15 Marks)

- a) Recursion Vs iteration
- b) Pointer arithmetic
- c) Types of pointer
- d) Draw a flowchart to calculate length of a string without using `strlen()`.
- e) Why `gets()` is preferred over `scanf()` while reading a string?
- f) Explain actual and formal parameter.

Section – B

Each question contains three parts a, b & c. Attempt any two parts of choice from each question.

Q3.

(5 X 2 = 10 Marks)

- a. What are the advantages of function? Explain various categories of user defined function.
- b. Write a program to pass a integer number to function and function should return square, cube and square root of that number.(using single function)
- c. Write a program to pass an integer to a function and function should return the count of number of digit.

Q4.

(5 X 2 = 10 Marks)

- a. Explain various storage classes in C with example.
- b. Draw a flowchart to pass a string in upper case into a function and convert it into lower case.
- c. Write a program to check whether a string is a palindrome or not without using string library function.

Q5.

(5 X 2 = 10 Marks)

- a. Is it possible to return multiple values from a function. Justify your answer with proper example.
- b. Write a program to sort an array using pointer.
- c. Write a recursive function to calculate x^y .