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TCS-201

B. Tech. (Second Semester)

Mid Semester EXAMINATION, 2017

(All Branches)

PROGRAMMING IN C

Time : 1:30 Hours]

[Maximum Marks : 50

Note : (i) This question paper contains two Sections.

(ii) Both Sections are compulsory.

Section—A

1. Fill in the blanks/True-False : (1×5=5 Marks)

(a) An array elements are always stored in
(continues/random) memory locations.

(b) void main ()

```
{int a[7]={2, 3, 5, 4, 1};
```

```
printf("%d",a[5];)
```

..... will be printed after execution of the
above code.

(c) Can we compare two strings using ==
operator ? (True/False)

- (d) The default storage order of matrix elements in C programming is row major. (True/False)
- (e) Partially initialized character array is filled with value.

2. Attempt any *five* parts : (3×5=15 Marks)

- (a) Why array indexing always starts with zero ?
- (b) Write a program to check a string is palindrome or not (by using only predefined functions.)
- (c) Write a C program to input a matrix, store it and print its transpose in same array.
- (d) Give difference between gets () and scanf () function in string handling with an example.
- (e) Draw a flowchart to input n element and store only multiple of 7 in a 1-D array.
- (f) Find the output :

```
#include<stdio.h>
#include<conio.h>
void main ( )
{int a[5]={5, 1, 15, 20, 25};
Int i = 0, j, m;
i = ++a[1];
j = a [1]++;
m = a [i++];
printf("%d%d%d",i,j,m);
}
```

Section—B

3. Attempt any *two* parts of choice from (a), (b) and (c). (5×2=10 Marks)

- (a) What is an array ? Give different advantages and disadvantages of array. Also explain dynamic initialization in an array with an example.
- (b) Draw a flowchart to input an array of size n. Print the sum of all even numbers stored in the array.
- (c) Write a program to sort an array. Show the steps required to sort the given array :
a [6] = {12, 3, 24, 1, 7, 5}.

4. Attempt any *two* parts of choice from (a), (b) and (c). (5×2=10 Marks)

- (a) Draw a flowchart to input two matrices of order m × n. Add them and display the resultant matrix.
- (b) An array A [-15.....10, 15.....40] requires two bytes of storage. If beginning location is 500 determine the location of A [15] [20]. Consider row major method.
- (c) Write a program to input a matrix and replace the principal diagonal element with its squares if the element is in single digit.

5. Attempt any *two* parts of choice from (a), (b) and (c). (5×2=10 Marks)

- (a) What is a String ? Explain any *five* string handling functions with syntax and examples.
- (b) Draw a flowchart to input a string. Count and print the frequency of a vowel given by user.
- (c) Write a program to input a string and count the number of words in that string.