



DHARMSINH DESAI UNIVERSITY, NADIAD
FACULTY OF TECHNOLOGY
B.TECH. SEMESTER II [IT/CE/EC]
SUBJECT: C Programming II (CT215)

Examination : First Sessional	Seat No. :	
Date : 07/02/2018	Day :	Wednesday
Time : 03:45 to 05:00	Max. Marks :	36

INSTRUCTIONS:

1. Figures to the right indicate maximum marks for that question.
2. The symbols used carry their usual meanings.
3. Assume suitable data, if required & mention them clearly.
4. Draw neat sketches wherever necessary.

Q.1 Do as directed. [12]

- (a) Write a recursive function to compute **exp(x,y)**. (i.e: $\text{exp}(x,y)=x^y=2^3=8$). [2]
- (b) Explain **strcmp()** function with example. [2]
- (c) Difference between pass by value and pass by address. Give an example. [2]
- (d) i) By default _____ is the return type of a c functions. [2]
ii) A variable declared inside a function by default assumes _____ storage class.
- (e) **Find out an error if any, correct it and write output for the following code.** [4]

<pre>(i) #include <stdio.h> #define N 5 #define M 2 void main() { int array[3+N*M]; printf("%d",sizeof(array)); }</pre>	<pre>(ii) #include <stdio.h> void main() { int arr[]={0,1,2,0,1,2,0,1,2}; printf("%d\n",arr[arr[3]+arr[1]]); printf("%d\n",arr[arr[arr[arr[1]]]]); }</pre>
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Q-2 Answer the following questions. (attempt any two) [12]

- (a) Write a program that multiply two matrices **M1[X][Y]** and **M2[Y][Z]**. [6]
- (b) Write a program using function which contains two arguments source string and sub-string. [6]
The function will return the total number of occurrences of a substring in a source string.
- (c) Write a program that will interchange the biggest and the smallest number from list of integers and display the modified list. [6]

Q.3 Answer the following questions. [12]

- (a) **Find out an error if any, correct it and write output for the following code.** [2]

```
#include <stdio.h>
void main()
{ int i;
  for (i=0;i<3;i++)
    mul();
}
void mul()
{ static int n;
  printf("%d",n);
  n *= 5;
}
```

- (b) Write a program that will read two strings from the user and copy the first n characters of string 2 at the end of string 1. Display appropriate output. [4]
- (c) In a small company there are ten salesmen. Each salesman is supposed to sell three products. Write a program using a 2D array to print (i) the total sales by each salesman and (ii) total sales of each product. [6]

OR

Q.3 Answer the following questions. [12]

- (a) **Find out an error if any, correct it and write output for the following code.** [2]

```
#include <stdio.h>
#include <stdlib.h>
void main()
{ char str1[ ] = "124z35";
  char str2[ ] = "-2.0";
  char str3[ ] = "e123";
  printf("str1: %d\n", atoi(str1));
  printf("str2: %d\n", atoi(str2));
  printf("str3: %d\n", atoi(str3));
}
```

- (b) Write a program to find out sum of digits using recursive function. For ex: if no = 123 then ans = 1+2+3 = 6. [4]
- (c) Write a program to read n floating point numbers in an array. Also, update the array to insert a new number at the specified location. [6]