

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER-1<sup>st</sup> / 2<sup>nd</sup> EXAMINATION- WINTER 2015**

**Subject Code: 110003****Date:30/12/2015****Subject Name: Computer Programming and Utilization****Time: 10:30am to 01:00pm****Total Marks: 70****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks

- Q.1** (a) Explain the structure of 'c' program **14**  
 (b) What will be the output of following program segment ?  

```
int a=2, j=4, k;
float a,b;
k=i/j*j ;
a=i/j*j;
b=j/i*I;
printf("%d,%d%f, k,a,b);
```

 (c) Write the syntax of scanf() function and printf() function.
- Q.2** (a) Explain the syntax of multiple if...else statement. **14**  
 (b) Write a program that converts Fahrenheit temperature to centigrade  
 $\text{Cent.} = 5/9(\text{fahr.} - 32)$   
 (c) Write a program that evaluates the polynomial  $4x^3 - 5x + 9$
- Q.3** (a) What are the different types of looping structures? **14**  
 (b) Compare break statement with continue statement.  
 (c) Write a program to print following pattern using loop  

```
1
1 3
1 3 5
1 3 5 7
---
```
- Q.4** (a) For the declaration as int a[10]; the last element is stored at a[9], is it true ? explain your answer. **14**  
 (b) What is string ? what are the operations that can be performed on string ?  
 (c) Write a program to multiply two matrices A and B of size 3\*3 and store the answer in matrix C .  $C = A * B$ .
- Q.5** (a) Explain following string manipulation functions **14**  
 Strstr(), strchr(), strlen()  
 (b) Write a program that read two strings and compare them using the function strcmp() and print message that first string is equal, less, greater than second one.

- Q. 6** (a) What is pointer ? explain how pointers are declared and initialized?  
(b) Write a program to find factorial of a given number using recursion.  
(c) What are the difference between local and global variables ?

- Q.7** (a) Explain how the members of structure can be accessed?  
(b) What is nested structure ? explain with suitable example.  
(c) Explain in brief fscanf(),and fprintf() function in handling data types from a file.

**14**

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