

00364

**M.Tech. IN ADVANCED INFORMATION
TECHNOLOGY - NETWORKING AND
TELECOMMUNICATION (MTECHTC)****Term-End Examination****December, 2015****MINI-020 : PROGRAMMING METHODOLOGIES***Time : 3 hours**Maximum Marks : 100*

- Note :**(i) *Section - I is compulsory. Section - I carries 30 marks.*
- (ii) *Section -II; Answer any five questions. Section -II carries 70 marks.*
- (iii) *Assume suitable data wherever required.*
- (iv) *Draw suitable sketches wherever required.*
- (v) *Figures to the right indicate maximum marks.*

SECTION - I**1. Answer any 3 questions from below :**

- (a) Write a C program to print the odd numbers in the range 1 to 20. **10**
- (b) Write a C program to reverse a string of characters without using string function. **10**
- (c) Explain system call used in client server model. **10**
- (d) Differentiate between Top-down and Bottom-up programming methodologies. **10**

SECTION - II

2. (a) Write a C program to compute difference between two dates (dd/mm/yyyy) using structures to define the dates. 7
- (b) What will be output of the following program ? Give suitable justification. 7
- ```
#include<stdio.h>
int main() {
 int i=2, j=2;
 while(i + 1 ? -- i : j ++)
 printf("%d", i) ;
 return 0;
}
```
3. (a) What is a "Linked list" in C ? Illustrate the use of Linked list with a simple C program. 7
- (b) Write a C program to implement string comparison without using strcmp() function. 7
4. (a) Define "arrays". Illustrate use of arrays with a simple C program. 7
- (b) What will be output of the following program ? Give suitable justification. 7
- ```
#include<stdio.h>
struct A{
    int p ;
    float q ;
    long double * r ;
};
int main( ) {
    struct A arr[10] ;
    printf("%d", sizeof arr) ;
    return 0 ;
}
```

5. (a) What are arguments and parameters in functions ? 6
(b) Write a C program to print the following output. 8

```
    1
  2  3
4  5  6
7  8  9 10
```

6. Write a C program to read an array of structure for storing the information of a student, his roll number, name, semester and average marks. Sort the array in alphabetical order and print it. Also store the sorted names in a file. 14
7. (a) What do you mean by software testing ? 2+5
Explain any five differences between black box and white box testing techniques.
(b) What is object - oriented programming ? 2+5
What are its salient features.
-