

MCA 1st Sem -2019

Time: 3 Hours

Full Mark: 70

(Answer all questions. Figures in the right hand margin indicates marks)

1.

- a) WAP to enter a number and test whether it is a Fibonacci number or not. [6]
 b) WAP to print below structure: [6]

```

      1
     1 2
    1 2 3
   1 2 3 4 5
  
```

- c) Find output? [2]
 void main ()
 {
 int i;
 for(i=1; i++ <= 5; printf ("%d", i);
 }

OR

- d) WAP to print below structure: [6]

```

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

- e) Write a function that inputs two numbers and prints all prime numbers between those numbers. [6]
 f) Find output? [2]
 main ()
 {
 int x=4, y=5, z;
 z=++x + ++x + ++y + y++ + x++;
 printf("x=%d y=%d z=%d", x, y, z);
 }

2.

- a) Find output? [2]
 Void main ()
 {
 int i=9;
 if(i==9)
 {
 int i=25;
 }
 printf ("i=%d", i); }

- b) Write a function isValid () to find whether a date is valid. [6]
c) Write a recursion function that input a number and return the reverse of that number. [6]

OR

- d) Find output? [2]

```
int main (void)
{
    printf ("%d\n", func(14837));
    return 0;
}
int func(int n)
{
    return (n) ? n % 10 + func ( n / 10) : 0 ;
}
```

- e) WAP to print twin primes less than 1000. If two consecutive odd numbers are both prime (e.g. 17, 19) they are known as twin primes. [6]
f) Write a recursive function that reverses an integer. [6]

3.

- a) WAP to insert an element in a sorted array at proper place, so that the array remains sorted after insertion also. [7]
b) WAP to remove duplicate elements from an unsorted array. [7]

OR

- c) WAP to print a square matrix spirally. [7]
d) WAP to remove duplicate elements from a sorted array. [7]

4.

- a) WAP to access dynamically allocated memory as a 1-D array. [7]
b) WAP to test whether a string is palindrome or not. [7]

OR

- c) WAP that will copy m consecutive characters from a string s1 beginning at position n into another string s2. [7]
d) Write your own pointer version of the library function strcpy(), strcat(). [7]

5.

- a) WAP to read and print an employee's detail using structure. [7]
b) WAP to accept name and arrival time of five trains and display the name with railway time format.(2PM is written as 14.00) [7]

OR

- c) WAP to understand how structure members are sent to a function. [7]
d) WAP to define a structure called complex consisting of two floating point variables. Declare two variables of type complex and perform addition operation. [7]