MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY, BHOPAL

EndTerm Examination

June 2022

Course – B.Tech.	Sem – 7	Section- F/G/H/I/J
Subject Name- Computer Programming and problem solving		Subject Code CSE 104
Time- 03 hours		Max Marks-50

Note- Answer all questions. Make suitable assumptions whenever necessary and mention the same

Q1	Write a C program to find the sum of all individual digits of an integer number using recursion.	5
Q2	Write a C program to read your scholar number and full name as input. Now display the result after removing odd numbers from your scholar number and vowels from your name. Sample input: 211112001 AMIT ROY Sample output: 2200 MT RY	5
Q3	Suppose a singing competition is going on between two groups of participants. Each group has 5 participants. Only one judge is there who gives marks (in range of 0 to 10) after seeing the performance of each participant. Write a C program to find the highest, lowest score in each group. Also find the overall lowest score and highest score.	5
Q4	Write a C program to check whether a number is even or odd without using any arithmetic and relational operators.	5
Q5	Write a C program to enter any integer number. Now check whether the number is palindrome or not. Also check whether the number is prime or not. Finally print the following message accordingly. Not palindr nor prime The number is palindrome only The number is prime only The number is palindrome and prime both.	5
| Q6 | ```c
#include<stdio.h>
int getInput(void); //It returns input number entered by user at run time.
int calSum(int *, int *) ; //It returns sum of two numbers
int main()
{
.......

.......
}
```<br>Complete the above code by taking two input numbers using getInput() function, then add two numbers using calSum() function. Finally print the result. | 5 |

Q7	Create a structure "Student" having elements as student name (char array of size 50), roll_no(int), marks (float) of 5 different subjects. Write a C program to enter records of two students and find average marks of each student. Also print the name of the student who scored the highest average mark.	5
Q8	Imagine you are traveling from your hometown to Bhopal to reach MANIT Bhopal. You can reach Bhopal Airport via plane or Bhopal Railway Station via train. After you reach Bhopal Airport, you take the pre-paid taxi to reach MANIT square. After you reach Bhopal Railway Station, you take a bus to reach MANIT square. At MANIT square, the security person asked you to show the admission letter. After checking the admission letter, the security guard allows you to enter into the MANIT campus. In case you failed to show the admission letter, the security person will tell you to make an entry in a "visitor notebook" and then allow you to enter into the MANIT campus. Write an algorithm for the above scenario.	5

Q9	What will be the values of t,u,v,w,x,y,z,num of the following C code?
	
	``c
	#include <stdio.h>
	int main()
	{
	        int num=31, i;
	        int a = 10, b = 5, c = 15;
	        int t,u,v,w,x,y,z;
	        for(i=0;i<=2;i++)
	        {
	                t= num>>i;
	                u= num<<i;
	                printf("t=%d\n u=%d\n", t, u);
	        }
	        v = c == (b^a);
	        w = ~35;
	        x = a&(num^b);
	        y = b , a;
	        z =(b,a);
	    printf("v=%d\n w=%d\n x=%d\n y=%d\n z=%d\n num=%d\n", v,w,x,y,z,num);
	    return 0;
	}
	``
		10