

GUJARAT TECHNOLOGICAL UNIVERSITY
M.SC(IT)- INTEGRATED– SEMESTER I- EXAMINATION –WINTER-2023

Subject Code:1310503**Date: 04/01/2024****Subject Name: Fundamentals of Computer and Basics of Programming****Time: 10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make Suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Use of simple calculators and non-programmable scientific calculators are permitted.

		Marks
Q.1	(a) Differentiate between Procedure Oriented Programming and Object Oriented Programming.	03
	(b) Demonstrate the use of logical AND (&&) and logical OR () operators with an example.	04
	(c) Draw the flowchart to find maximum out of three numbers entered by user.	07
Q.2	(a) Give the output of following C code.	03
	<pre>int main(){ printf("%d", 5>45); printf("%d", -15%6); printf("%d", 98!=89); return 0; }</pre>	
	(b) Demonstrate the use of bitwise operators with an example.	04
	(c) Draw and explain the basic block diagram of computer system.	07
	OR	
	(c) Differentiate between Machine level, Assembly level and High level programming language.	07
Q.3	(a) Briefly explain various primitive data types available in C language.	03
	(b) Fill in the blanks to get output: 1 7 11 13 17 19	04
	<pre>int main(){ int i; for(i=1;i<20;i=_____){ if(_____==0 _____==0) _____; printf("%d ", i); } return 0; }</pre>	
	(c) Write a C program to print following pattern using loop.	07
	<pre>1 1 3 1 3 6 1 3 6 10 1 3 6 10 15</pre>	

OR

- Q.3** (a) Briefly explain the operator having three operands. **03**
(b) Write a C program to print only even numbers between 10 to 100. **04**
(c) Demonstrate with an example: Concept of forward jump and backward jump using *goto*. **07**
- Q.4** (a) Differentiate between call by value and call by reference. **03**
(b) Explain elements of User Defined Function (UDF) in brief. **04**
(c) Write a C program to sort an array of 10 elements. **07**

OR

- Q.4** (a) Differentiate between actual arguments and formal arguments. **03**
(b) Explain recursion with an example. **04**
(c) Write a C program to print minimum number and maximum number from an array of 10 elements. **07**
- Q.5** (a) Briefly explain *fseek()* and *fprintf()* with an example. **03**
(b) Briefly explain any one preprocessor directive with an example. **04**
(c) Write a C program which takes 5 numbers from user and writes all odd numbers to ODD.txt file and even numbers to EVEN.txt file. **07**

OR

- Q.5** (a) Demonstrate different ways to create object(s) of structure. **03**
(b) Briefly explain any two features of object oriented programming. **04**
(c) Write a C program to make sum of array elements using pointer. **07**
