

GUJARAT TECHNOLOGICAL UNIVERSITY**MSC - INTEGRATED- SEMESTER - I - EXAMINATION- SUMMER-2023****Subject Code: 1310503****Date: 27/06/2023****Subject Name: Fundamentals of Computer and Basics of Programming****Time: 02:30 PM TO 05:00 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.

- Q.1** (a) Describe the types of software with example. **03**
 (b) Define below terms: **04**
 i) Hardware
 ii) Software
 iii) Compiler
 iv) Interpreter
 (c) Draw basic block diagram of computer. List out and explain its components. **07**
- Q.2** (a) Define below terms: **03**
 i) Machine level
 ii) Assembly level
 iii) High level programming
 (b) Difference between Procedure Oriented Language and Object-Oriented Language. **04**
 (c) List out the symbols used in flowchart and draw flowchart to find factorial number. **07**
- OR**
- (c) Write a program to find sum of first N even numbers. **07**
- Q.3** (a) What is array? Define the types of array with example. **03**
 (b) List out the operators used in c language and explain any four with examples. **04**
 (c) Write a C program to implement multi-dimensional array and its operation. **07**
- OR**
- Q.3** (a) What is function? List out and explain user-defined functions. **03**
 (b) Differentiate between break statement and continue statement. **04**
 (c) Define loop. List out the types of loop and explain any two with example. **07**
- Q.4** (a) Explain pre-processor directives in c language. **03**
 (b) Write a program to describe pointer to pointer. **04**
 (c) Define an algorithm. Write an algorithm to print Fibonacci series. **07**
- OR**
- Q.4** (a) Describe the use of pointer to structure. **03**
 (b) Differentiate between structure and union. **04**
 (c) List out the features of c language and describe the structure of c program with example. Also, show the usage of header files. **07**
- Q.5** (a) Define function and its syntax with example. **03**
 (b) Define file management. Show how to read and write in the file using example. **04**
 (c) Build a function to check number is prime or not. **07**
- OR**
- Q.5** (a) Explain getch(), getchar(), gets() with example. **03**
 (b) Define below terms: **04**
 1) Class & Object
 2) Polymorphism
 3) Inheritance
 4) Encapsulation
 (c) Explain call by value and call by reference with examples in brief. **07**
