

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER-I • EXAMINATION – WINTER • 2015

Subject Code: 2610001

Date: 22-12-2015

Subject Name: Fundamentals of Programming

Time: 10:30 am - 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.

- Q.1 (a)** Write down various symbols of flow chart? Draw a flowchart to find maximum among three numbers. **07**
- (b)** Differentiate between following
- a) Compiler and interpreter **03**
 - b) Symbolic constant and const variable **02**
 - c) L-value and R-value **02**

- Q.2 (a)** Compare if else leaders and switch case. Can we convert every if else code into switch case? Justify. **07**
- (b)** Differentiate between following
- (i) Break and continue **03**
 - (ii) Entry control loop and exit control loop **04**

OR

- (b)** Write a program to print following pattern **07**
- ```
1
12
123
1234
12345
```

- Q.3 (a)** Explain following terms with example
- (i) Function prototype **02**
  - (ii) Function definition **02**
  - (iii) Actual and formal parameter **03**
- (b)** What is pointer? Explain call by value and call by reference with the help of suitable example. **07**

**OR**

- Q.3 (a)** How array name is differing from pointer? Write down various applications of pointers. **07**
- (b)** Write a program to print all the prime numbers between 1 and 100 in file using user define function. **07**
- Q.4 (a)** Explain all Storage classes with the help of example. **07**
- (b)** How can we initialize 2-D array? Write a program to add two matrices using user define function. **07**

**OR**

- Q.4 (a)** Compare recursion and iteration with the help of suitable example. **07**
- (b)** Explain various dynamic memory allocation functions in detail. **07**

- Q.5 (a)** Differentiate between
- (i) Structure and union **03**
  - (ii) `int *a[2]` and `int (*a)[2]`. **04**
- (b)** Explain various File opening modes in details. **07**
- OR**
- Q.5 (a)** What is Linked List? How it is differ from array? Write a program to add node at last in the linked list. **07**
- (b)** Differentiate between macro and function with the help of suitable example. **07**

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