

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**MCA - SEMESTER– III EXAMINATION – SUMMER 2016**

**Subject Code: 630005**

**Date: 01-06-2016**

**Subject Name: System Software**

**Time: 02.30 P.M. To 05.00 P.M.**

**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) Explain the following term: **07**
- |                                |            |
|--------------------------------|------------|
| 1. Forward Reference           | 5. Binding |
| 2. Intermediate Representation | 6. Macro   |
| 3. Grammar                     | 7. SSM     |
| 4. Screen Editor               |            |
- (b) What is Grammar and Operator Grammar? Explain the classification of grammar with example. **07**
- Q.2** (a) Explain the allocation of Data Structure. **07**
- (b) Differentiate between character and block device driver. **07**
- OR**
- (b) Draw block diagram of character device driver and explain it in detail. **07**
- Q.3** (a) Explain the types of Editor and also draw the Editor Structure. **07**
- (b) Write the tasks performed by the analysis and synthesis phase of assembler. **07**
- OR**
- Q.3** (a) Show all data structures created during Macro pre-processor pass II. Also list macro pass II algorithm. **07**
- (b) Discuss different types parameters used in macro with example. **07**
- Q.4** (a) Write short note on Analysis phase of a Toy compiler and YAAC. **07**
- (b) Write a short note on code optimization. **07**
- OR**
- Q.4** (a) (i) Explain Variant – I and Variant – II for IC generation **04**
- 03**
- (ii) What are overlays?
- (b) Write a short note on: **07**
- a. Object Module
  - b. Self-locating programs
- Q.5** (a) Discuss Absolute loaders, Compile and Go loaders with its advantages and disadvantages. **07**
- (b) Given a postfix string  $| - a b c * + d e f ^ * + - |$  generate triples, indirect triples and quadruples. Explain the significance of these forms. **07**
- OR**
- Q.5** (a) What do you mean by code optimization? Explain the five optimizing transformation with example. **07**
- (b) 1. When loader will perform relocation? Also explain compile and go loader. **04**
- 03**
2. Write short note on Debug monitor.

\*\*\*\*\*