

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**MCA Integrated– SEMESTER –I EXAMINATION –SUMMER-2019**

**Subject Code: 2618601****Date: 30-05-2019****Subject Name: Fundamental Computer Organization****Time: 10.30 am to 1.00 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) Draw and explain the basic components of digital computer. **07**  
 (b) Explain printer and its types. Explain any one Impact and Non-Impact Printer. **07**
- Q.2** (a) What is universal gate? Which gates are known as universal gate? Explain with reason with help of any one such gate as universal gate. **07**  
 (b) Where does complements are used? Compare 1's complement with 2's complement. **07**
- OR**
- (b) What is Boolean Algebra Function? Explain any five Basic Laws of Boolean Algebra. **07**
- Q.3** (a) What is shift register? Explain its working with proper circuit diagram. **07**  
 (b) What is multiplexer? Explain basic working and applications of Multiplexer. **07**
- OR**
- Q.3** (a) What is RS Flip-Flop? Draw the circuit diagram and explain its working. **07**  
 (b) Explain Binary Coded Decimal Adder with neat diagram and also explain with suitable example. (4 bit Input is being taken by student by own) **07**
- Q.4** (a) How to select single input from several inputs explain with block diagram. **05**  
 (b) Explain characteristics of memory system and explain memory hierarchy. **05**  
 (c) Explain RAM? Types of RAM? Which did you select? Why? **04**
- OR**
- Q.4** (a) Write short notes on instruction cycle and execution cycle organization of control register. **05**  
 (b) Explain ROM? Types of ROM? Explain their application. **05**  
 (c) Write note on magnetic disk memories **04**
- Q.5** (a) Explain different parts of EU in 8086 microprocessor. **07**  
 (b) Explain different addressing modes of 8086 with example. **07**
- OR**
- Q.5** (a) Explain working of following instructions with example **07**  
 1. DIV  
 2. NOT  
 3. XOR  
 4. ADD  
 5. MOV  
 6. CMP  
 7. DEC  
 (b) Explain logical instruction set of 8086 microprocessor with example. **07**

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