

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III • EXAMINATION – WINTER • 2014****Subject Code: 130704****Date: 18-12-2014****Subject Name: Computer Organization and Architecture****Time: 02.30 pm - 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.

- Q.1** (a) What is an Interrupt Cycle? Draw and explain flow chart of it. **07**
(b) What is an Assembler? Explain its passes in detail. **07**
- Q.2** (a) Explain the control gate structure for the Address Register in a basic computer system. **07**
(b) List different addressing modes. Explain any one in details. **07**
- OR**
- (b) What is a memory stack? Explain clearly with example. **07**
- Q.3** (a) Explain MRI and Non-MRI with example. **07**
(b) Write an ALP to multiply TWO numbers using successive addition method **07**
- OR**
- Q.3** (a) List the characteristics of RISC architecture. **07**
(b) Write an ALP to transfer a block of 10 bytes from one location to other. **07**
- Q.4** (a) What is pipeline processing? Explain its significance with respect to the processor architecture. **07**
(b) Describe the importance of timing and control signal in data transfer with example. **07**
- OR**
- Q.4** (a) Explain Booth algorithm for multiplication operation. **07**
(b) Draw the block diagram for BCD adder and explain it. **07**
- Q.5** Attempt **ANY FOUR** **14**
(a) Register Transfer Language
(b) Vector Processing
(c) Machine Language
(d) Shift Micro-operations
(e) Parallel Processing
(f) Push and Pop operation on register stack
