

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
ME - SEMESTER-I(New course)• EXAMINATION – WINTER- 2015

Subject Code: 3715501

Date: 01/01/2016

Subject Name: Advance Computer Architecture

Time:2:30 pm to 5:00 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) Give few essential features of RISC architecture. **07**
- (b) Many computer manufacturers offer a family of computer models, all with the same architecture but with differences in organization- Account the above statement with proper reasons **07**
- Q.2** (a) Explain centralized bus arbitration scheme with timing diagram. **07**
- (b) What are the basic categories of computer architecture? Explain in detail **07**
- Or
- (b) What are the major limitations of pipeline technique.
- Q.3** (a) Explain VLIW Approach to avoid dependences. **07**
- (b) Define pipelined datapath. Explain pipelined datapath of a three stage pipeline with proper illustration **07**
- Or
- Q.3** (a) Define mixed-signal integration and also discuss its advantages in brief **07**
- (b) Explain platform based SoC in detail **07**
- Q.4** (a) Briefly explain the three main abstractions of a SoC design. **07**
- (b) Explain the three main classes of platforms that can be incorporated in a platform based Soc **07**
- Or
- Q.4** (a) Discuss the features of texas' MSP430 architecture and also mention its application **07**
- (b) Explain different models of memory consistency. **07**
- Q.5** (a) Explain the components of Intel's 8051 architecture with suitable block diagram **07**
- (b) Explain how more parallelism can achieve at compiler time using Hardware **07**
- Or
- Q.5** (a) Explain the components of Intel's 8051 architecture with suitable block diagram **07**
- (b) Explain the components of Intel's 8051 architecture with suitable block diagram **07**