Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER II (NEW) – • EXAMINATION – SUMMER 2016

Subject Code: 2724207 **Date: 31/05/2016**

Subject Name: HARDWARE SOFTWARE CO-DESIGN

Time:10:30 am to 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)**	Briefly discuss the level of abstraction with reference to HSCD.	**07**
	(b)	Write a short note on 'Petri nets"	**07**
Q.2	**(a)**	Briefly explain the typical Co design process.	**07**
	(b)	List the characteristics of a good model.	**07**
		OR	
	(b)	Hardware Software Co Design plays an important role in the field of Engineering. Discuss it.	**07**
Q.3	**(a)**	Explain the difference between functional and structural partitioning.	**07**
	(b)	Discuss partitioning issues.	**07**
		OR	
Q.3	**(a)**	Write a note on state oriented models and compare it.	**07**
	(b)	Explain 'capture & simulate' and 'design & synthesis' very clearly with their advantage and disadvantage.	**07**
Q.4	**(a)**	Explain Accuracy Vs Speed in terms of estimation issues. Also explain fidelity.	**07**
	(b)	Compare VHDL and VERILOG as a specification language.	**07**
		OR	
Q.4	**(a)**	What are the differences between state charts and spec charts? Explain any one.	**07**
	(b)	How state machine model helps to design three floor elevators? Discuss it.	**07**
Q.5	**(a)**	Explain RISC and CISC & compare it.	**07**
	(b)	Discuss Queuing models.	**07**
		OR	
Q.5	**(a)**	Define Following.	**07**
		1. Hardware Software Co-Design 2. Modeling 3. Validation 4. Partitioning 5. Scheduling 6. Synthesis 7. Allocation	
	(b)	Write a note on SDL.	**07**