Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058, India

(Autonomous College Affiliated to University of Mumbai)

End Semester Examination – Re examination

January – 2020

Max. Marks: 100 Duration: 3 Hours

Class:SE Semester: IV

Course Code:EL43 Branch:ETRX

Name of the Course: Computer Organization and Architecture

Instruction:

(1) All questions are compulsory

(2) Draw neat diagrams

(3) Assume suitable data if necessary

Q No.		Max. Marks	CO
Q.1 (A)	Compare and contrast RISC and CISC architectures in detail.	10	CO1
Q.1 (B)	Draw ARM core data flow diagram. Hence, justify the necessity of each block.	10	CO1
Q.2 (A)	Draw the flow chart and explain restoring algorithm with an example. OR	10	CO2
Q.2 (A)	Multiply (+7) and (-3) using Booth's algorithm and hence discuss the steps in the algorithm. Support your answer with the flowchart.	10	CO2
Q.2 (B)	Why is it compulsory to maintain the sequencing in the instruction execution and hence discuss the instruction classification.	10	CO3
Q.3 (A)	List various method of control unit design using hardware. Explain any one of the method in detail. OR	10	CO3
Q.3 (A)	Control unit if designed using software, flexibility increases. justify with the support of control unit diagram using software (Microprogram).	10	CO3
Q.3 (B)	Differentiate and contrast two computer architectures..viz..Von neumann and Harwards....	10	CO3
Q.4 (A)	Compare and contrast with an example page replacement policies.You can select any two policies of your choice. OR	10	CO4
Q.4 (A)	Explain the concept of Virtual memory. By which two methods, this concept can be implemented? Compare this methods.	10	CO4
Q.4 (B)	List two cache organization methods. Discuss the terms Hit rate and explain how it can be improved through this two cache organizations.	10	CO4

Q.5 (A)	ARM architecture improves the performance through its pipelined concept. But, explain the drawbacks of pipelined architecture inh terms of hazards.	10	CO6
Q.5 (B)	Compare and contrast various data transfer methods.	10	CO5