Mid Semester Examination
March 2020

Max. Marks: 20
Class: SE ETRX
Name of the Course: Computer Organization and Architecture
Branch: Electronics

Duration: 1 Hr
Semester: IV
Course Code: EL43

Instruction:
All questions are compulsory
Draw neat diagrams
Assume suitable data if necessary with justification

Q. No		Marks	CO-BL-PI
Q1	Draw flowchart and find X using Booth's algorithm $(X)_8 = (20)_3 * (10)_2$ OR	5 Marks	2-3-2.2.3
	Draw flowchart and express $$\frac{(23)_3}{(11)_2} \text{ as } \frac{N}{D} = (Q)_8 + \frac{R}{D}$$ using restoring division algorithm and find out value of Q and R *Note : Suffix indicates Base of numbering system*	5 Marks	2-3-2.2.3
Q2	Compare single precision and double precision IEEE 745 floating point representation standards and represent 420.840 in single precision standard	5 Marks	2-3-3.1.4
Q3	A) List different class of computers B) Define Amdahl's Law and explain it with suitable example	2 Marks 3 Marks	1-1-12.2.1 1-2-12.2.1
	OR Compare different generations of X86 Architectures	5 Marks	1-1-12.2.1
Q4	Calculate number of chips required if memory of size 1024 x 16 is to be implemented for a 16 bit processor using chip of size 512 x 8 and also draw interfacing diagram	5 Marks	4-4-2.1.2 4-4-2.1.3

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(Autonomous College Affiliated To University of Mumbai)

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SYNOPTIC

Q. No		Marks
Q1	Flow chart Booths algorithm	1 Mark
	Algorithm correct Steps and correct answer	4 Marks
	OR	
	Flow chart Non Restoring division algorithm	1 Mark
	Algorithm correct Steps and correct answer	4 Marks
Q2	Comparision (with format diagram)	3 Marks
	Conversion in floating point	2 Marks
Q3	A) Any four class name (0.5 M each)	2 Marks
	B) Defination of Amdahl's Law (1 Mark)	3 Marks
	suitable example (2 Marks)	
	OR	
	Compare different generations of X86 Architectures	5 Marks
	(5 Parameters 1 Mark Each)	
Q4	Calulation of number of adress lines (1 Mark)	5 Marks
	Calculation of number of chip (1 Mark)	
	Interface Diagram (3 Marks)	