

Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058, India (Autonomous College Affiliated To University of Mumbai)

## **Mid Semester Examination** March 2020

**Duration: 1 Hr** 

Course Code: EL43

Semester: IV

Max. Marks: 20 Class: SE ETRX

Name of the Course: Computer Organization and Architecture

**Branch: Electronics** 

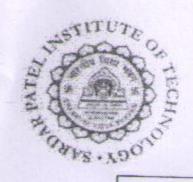
Instruction:

All questions are compulsory

Draw neat diagrams

Assume suitable data if necessary with justification

Q. No		Marks	CO-BL-P
01			
Q1	Draw flowchart and find X using Booth's algorithm	5 Mark	22222
		Jiviaik	s 2-3-2.2.3
	$(X)_8 = (20)_3 * (10)_2$		
	OR		
	OK	4	
	Draw flowchart and express	536 1	
		5 Marks	2-3-2.2.3
	$\frac{(23)_3}{3} \approx N \qquad R$		
	$\frac{(23)_3}{(11)_2} \text{ as } \frac{N}{D} = (Q)_8 + \frac{R}{D}$		
	using restoring division algorithm and find out value of Q and R		
	*Note · Suffix indicates Dans · C		
	*Note: Suffix indicates Base of numbering system		
Q2	Compare single precision and double precision IEEE 745 floating		6
	Point representation standards and represent 420 840 in single	5 Marks	2-3-3.1.4
	precision standard		
)2	A) T: 4 1:00		
Q3	A) List different class of computers  B) Define Amalalia I	2 Marks	1-1-12.2.1
	B) Define Amdahl's Law and explain it with suitable example	3 Marks	1-2-12.2.1
	O.D.		
	OR		
	Compare different generations of X86 Architectures		
		5 Marks	1-1-12.2.1
	Calculate number of chips required if memory of size 1024 x 16	5 Maula	1.1.2.1.2
	to be implemented for a 10 bit processor using ohin of air	5 Marks	4-4-2.1.2
	512 x 8 and also draw interfacing diagram		4-4-2.1.3



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## SYNOPTIC

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