23-12-2022(E)

SOMAIYA VIDYAVIHAR UNIVERSITY

Semester: August 2022 – December 2022		
Maximum Marks: 100 **Examination: ESE Examination**		**Duration:3 Hrs.**
Programme code: 01 **Programme: Btech Computer Engineering**	**Class:** **SYBTECH**	**Semester: III(SVU 2020)**
Name of the Constituent College: **K. J. Somaiya College of Engineering**	**Name of the department: Computer**	
CourseCode: 116U01C303	**Name of the Course: Computer Organisation and Architecture**	
Instructions: 1)Draw neat diagrams 2) All questions are compulsory **3) Assume suitable data wherever necessary**		

Que. No.	Question	Max. Marks
Q1	Solve any **Four**	**20**
i)	Explain the function of each functional unit in computer system	5
ii)	List features of PCI bus structure	5
iii)	What is micro programmed control unit ?	5
iv)	What is use of input output module ?	5
v)	Explain the application of microprogramming	5
vi)	List the different replacement algorithms in cache	5

Que. No.	Question	Max. Marks
Q2 A	Solve the following	**10**
i)	Explain SCSI bus standards	5
ii)	Explain restoring division algorithm and divide 8/3	5
	OR	
Q2 A	Explain different addressing modes of 8086	10
Q 2 B	Solve any **One**	**10**
i)	Draw and explain different RAID levels	10
ii)	What is DMA? Also explain the different modes of data transfer of DMA	10

Que. No.	Question	Max. Marks
Q3	Solve any **Two**	**20**
i)	Write note on Programmed Input output technique.	10
ii)	Write note on Flynn's classification	10
iii)	Compare paging and segmentation	10

Que. No.	Question	Max. Marks
Q4	Solve any **Two**	**20**
i)	What is virtual memory? Discuss how virtual address is converted to physical address	10
ii)	Explain six stage instruction pipeline and which unit take care of each stage	10
iii)	Explain floating point representation IEEE standard format	10

Que. No.	Question	Max. Marks
Q5	(Write notes / Short question type) on any **four**	**20**
i)	Explain the function of SCSI bus	5
ii)	What is an interrupt?	5
iii)	Compare RISC and CISC	5
iv)	Explain the set associative cache	5
v)	When is the Booth's algorithm less efficient ?	5
vi)	Discuss the pipeline hazards	5