06/06/2022

K. J. Somaiya Institute of Engineering and Information Technology, Sion, Mumbai-22

(Autonomous College Affiliated to University of Mumbai)

End Semester Exam

April - May 2021-22

(B. Tech.) Program: Information Technology

Examination: **SY** Semester: IV

Course Code: **1UITC405** and Course Name: **Computer Organization & Architecture**

Duration: **03 Hours** Max. Marks: 60

Instructions:

(1) All questions are compulsory.

(2) Draw neat diagrams wherever applicable.

(3) Assume suitable data, if necessary.

	Question	Max. Marks	CO	BT level
Q 1	**Solve any six questions out of eight:**	**12**		
i.	List any four Addressing mode.	2	CO1	U
ii.	Compare Computer organization & Architecture.	2	CO1	U
iii.	List the types of pipeline hazards	2	CO2	U
iv.	Describe Nano programming	2	CO2	U
v.	Draw Flow chart of Non Restoring Division Algorithm.	2	CO3	U
vi.	Compare SRAM and DRAM	2	CO4	AN
vii.	Explain major function of an I/O Module	2	CO5	U

viii.	Differentiate between Microcontroller and Microprocessor.	2	CO6	AN
Q.2.	**Solve any four out of six question**	**16**		
i.	Explain Indirect addressing mode with the help of example.	4	CO1	AN
ii.	Explain microinstruction format.	4	CO2	U
iii.	Represent $(12.25)_{10}$ in double precision.	4	CO3	U
iv.	Explain Direct mapping with of example.	4	CO4	U
v.	Explain purpose of DMA	4	CO5	U
vi.	List advantages of Microcontroller.	4	CO6	U
Q.3	**Solve any two questions out of three.**	**16**		
i.	Draw and explain 8086 pin diagram.	8	CO1	U
ii.	Explain structure hazards in pipelining.	8	CO2	U
iii.	Draw the flowchart of Booths algorithm and multiply (22) * (-5) using booths algorithm	8	CO3	U
Q.4	**Solve any two questions out of three.**	**16**		
i.	Explain in details memory hierarchy with example. List various characteristics of memory.	8	CO4	U
ii.	Explain programmed I/O technique of data transfer	8	CO5	U
iii.	List and discuss various Instruction Set of 8051	8	CO6	U