Student Name: University Roll No.:	Printed Pages:1

School of Engineering
Second Theory Sessional Examination
Even Semester (AS: 2024-25)

B. Tech: CSE/CSAI [Year: 2nd] [Semester : 4th]

Course Title: Computer Organization & Architecture Course Code: NCS4404	Max Marks: 30 Time: 1hr

Instructions: 1-Mention any assumptions made.
2-Notations have usual meaning.

	SECTION 'A' Q.N.1. Attempt all parts of the following:	Course Objective	Marks
a)	What is prefetching?	CO2	1
b)	Explain two differences between horizontal and vertical microprogramming.	CO2	1
c)	Differentiate S-Ram and D-Ram.	CO3	1
d)	Define the term "Hit Ratio" for Cache Memory.	CO3	1
e)	Differentiate Interrupts and Exceptions	CO4	1
	SECTION 'B' **Q.N.2. Attempt any two parts of the following:**	**Course Objective**	**Marks**
a)	What are the different Addressing Modes? Explain in detail.	CO3	7.5
b)	Draw and explain Register organization of CPU.	CO3	7.5
c)	Explain DMA technique for I/O operation.	CO4	7.5
	SECTION 'C' **Q.N.3. Attempt any one part of the following:**	**Course Objective**	**Marks**
a)	What is instruction pipeline? Also explain performance of pipelining in detail.	CO2	10
b)	What do you understand by Memory Mapping? Illustrate different Mapping technique used for Cache memory.	CO3	10
c)	What are the different types of interrupts? Also discuss programmed initiated I/O and Interrupt initiated I/O modes of data transfer.	CO4	10

Table 1: Mapping between COs and questions

CO'S	Question Numbers	Marks	Total Marks
CO2	1(a), 1(b), 3(a)	12	57.5
CO3	1(c), 1(d), 2(a), 2(b), 3(b)	27	
		18.5	