



Bearys
Institute
of Technology
MANGALORE

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
SECOND INTERNAL SCHEME

SUB: DIGITAL DESIGN AND COMPUTER ORGANIZATION

SUB CODE: BCS302

FACULTY NAME: PROF. AKSHATHA S.A

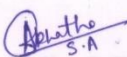
MAX. MARKS: 50

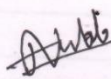
DATE: 25/12/2024


Answer Any One Full Question from each part

PART A		MARKS SPLIT UP	M	CO	BTL
1.	a)	Design a BCD-to-excess-3 code converter Explaining the steps----- Truth Table----- Kmap----- Result-----	2 3 4 1	10	CO4 L3
	b)	Design and explain four bit subtractor. Illustrate how overflow can be identified in subtractor. Diagram----- Explanation about Subtractor----- Explanation about overflow-----	3 4 3	10	CO4 L2
	c)	Explain the concept of multiplexer. Diagram----- Explanation-----	4 6	10	CO4 L2
OR					
2.	a)	What is latch? With a neat diagram, explain S-R latch using NOR gate. Definition----- Truth Table----- Diagram----- Explanation-----	2 2 3 3	10	CO4 L3
	b)	What is priority encoder? Design 4:2 priority encoder with necessary diagram. Definition----- Diagram----- Explanation-----	3 3 4	10	CO4 L2

	c)	Design and explain four bit adder with carry look ahead. Circuit Diagram----- Explanation about adder----- Explanation about carry look ahead-----	3 4 3	10	CO1	L3
PART B						
3	a)	With neat sketches, explain various methods for handling multiple interrupt requests raised by multiple devices. Explain how interrupt occurs----- Explain Vector interrupt method----- Explain priority method----- Explain Daisy chain method-----	2 2 3 3	10	CO1	L3
	b)	What is DMA Bus arbitration? Explain different bus arbitration Techniques. Diagram of DMA bus arbitration----- Explain 4 types of bus arbitration technique-----	3 7	10	CO1	L3
OR						
4	a)	Draw a neat block diagram of memory hierarchy in a computer system. Discuss the variation of size, speed and cost per bit in the hierarchy. block diagram----- variation of size, speed and cost per bit in the hierarchy	3 7	10	CO1	L3
	b)	Discuss different types of mapping function of caches. Explain 4 methods each of 2.5 marks-----	2.5*4	10	CO1	L3


Course Coordinator


Module Coordinator


HOD

Scheme of Evaluation Sample