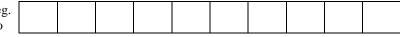# GIET UNIVERSITY, GUNUPUR – 765022

B. Tech (Fourth Semester Regular) Examinations, May – 2024

22BCSPC24001 /22BCMPC24001/22BCDPC24001

Computer Organization and Architecture

(CSE, CSE(AIML), CSE(DS))

Time: 3 hrs   Maximum: 70 Marks

(The figures in the right hand margin indicate marks)

PART – A   (2 x 5 = 10 Marks)

Q.1. Answer *ALL* questions

		CO #	Blooms Level
a.	Write the basic functional units of a Computer System.	CO1	K1
b.	Define data path & Control path.	CO2	K1
c.	Perform Binary Subtraction of 1010 with 1111.	CO3	K2
d.	Differentiate Volatile & Non-Volatile Memory.	CO4	K1
e.	Define Cache Hit & Cache Miss.	CO4	K1

PART – B   (15 x 4=60 Marks)

Answer *ALL* questions

		Marks	CO #	Blooms Level
2. a.	What do you mean by Bus? Explain different types of bus with neat diagram.	7	CO1	K2
b.	Draw & Explain Von Neumann Architecture.	8	CO1	K3
	(OR)			
c.	Define the Role of CPU & Its component with the functionality of various Registers available in A Processor.	7	CO1	K2
d.	Define ISA. Mention the Differentiate between RISC & CISC with block Diagram.	8	CO1	K3
3.a.	Explain in detail about Design & Architecture of ALU with block diagram.	7	CO2	K3
b.	Draw and esxplain the Structure of Hardwired CU & Micro-programmed CU with its Functionality.	8	CO2	K3
	(OR)			
c.	Explain in details about Multiprocessor Architecture.	8	CO2	K2
d.	Define the concept of Distributed Memory Architecture & differentiate UMA & NUMA.	7	CO2	K2
4.a.	Draw & Explain Binary Adder with logical Gates & Circuits.	7	CO3	K3
b.	Perform Binary addition of 1011 with 1010 and Multiplication of 1011 with 1010	8	CO3	K3
	(OR)			
c.	Perform Binary Multiplication of -5*4=20 using Booth Multiplication Algorithm.	8	CO3	K3
d.	Write short notes on Floating Point Number Representation and its component with 64 bit Representation	7	CO3	K2

5.a.	Differentiate between Primary Memory and Secondary Memory.	8	CO4	K2
b.	Write Short Notes on i) Virtual Memory ii) Interrupts	7	CO4	K2

<div align="center">(OR)</div>

c.	Define Cache Memory and its Mapping Techniques.	7	CO4	K2
d.	Explain in details about Direct Memory Access with block diagram.	8	CO4	K3

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