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GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY, ODISHA, GUNUPUR

(GIET UNIVERSITY)

M.C.A. (First Semester) Regular Examinations, January – 2025

MCA23104 – Computer System and Architecture

(MCA)

Time: 3 hrs | Maximum: 60 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. Define Instruction format.	CO1	K1
b. Define number system.	CO2	K1
c. Difference between RAM and ROM.	CO3	K2
d. Define peripheral device.	CO4	K1
e. Explain working function of ALU.	CO5	K1

PART – B **(10 x 5 = 50 Marks)**

Answer ***ALL*** questions		Marks	CO #	Blooms Level
2. a.	Explain the basic architecture computer with neat diagram.	5	CO1	K2
b.	Write the difference between RISC and CISC.	5	CO1	K3
	(OR)			
c.	Explain the design and architecture of ALU with neat diagram.	5	CO2	K2
d.	Explain the working principle of Bus structure diagram.	5	CO2	K2
3.a.	Difference between primary memory and secondary memory.	5	CO3	K3
b.	Define Cache memory. Explain concept of Direct Mapping.	5	CO3	K2
	(OR)			
c.	Describe different laws of Boolean algebra with example.	5	CO2	K2
d.	Write down different types of logical gate with truth table.	5	CO2	K2
4.a.	Define memory. Explain different levels of memory hierarchy.	5	CO3	K3
b.	Explain the working principle of K Way Set Associative Mapping.	5	CO3	K2
	(OR)			
c.	Write down difference between I/O-mapped I/O and memory mapped I/O.	5	CO4	K3
d.	Explain data transfer and the concept of synchronous data transfer.	5	CO4	K2
5.a.	Explain the Von-Neumann architecture computer with neat diagram.	5	CO1	K2
b.	Difference between SISD and MIMD.	5	CO5	K3
	(OR)			
c.	Explain different types of peripheral devices.	5	CO4	K3
d.	Explain the concept of different mode of DMA.	5	CO4	K2
6.a.	Explain parallel processing with neat diagram.	5	CO5	K2
b.	Explain the concept of SISD with neat diagram.	5	CO5	K2
	(OR)			
c.	Write short notes on Array processing and Programmed I/O	5	CO5	K2
d.	Write short notes on Flash Drive and Instruction Set	5	CO1	K1

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