GIET UNIVERSITY, GUNUPUR – 765022
B.C.A (Second Semester) Regular Examinations, May – 2024
BCA23201 - Computer Architecture

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.	What is Instruction Cycle?	CO1	K1
b.	Define Boolean Algebra.	CO2	K1
c.	What is Secondary Memory?	CO3	K3
d.	What is the use of DMA ?	CO4	K1
e.	What is parallel processing ?	CO5	K1

PART – B   **(10 x 5 = 50 Marks)**

Answer *ALL* questions

		Marks	CO #	Blooms Level
2. a.	Explain Instruction format? Write down the different types of instruction format.	5	CO1	K2
b.	Discuss different types of addressing modes with examples.	5	CO1	K3
	(OR)			
c.	Describe different laws of Boolean algebra with example.	5	CO2	K2
d.	Explain the working principle of Bus structure diagram.	5	CO2	K2
3.a.	Define Cache memory. How do you calculate performance of Cache Memory?	5	CO3	K3
b.	What is Cache mapping? Explain concept of Fully Associative Mapping with a neat diagram.	5	CO3	K1
	(OR)			
c.	Describe different laws of Boolean algebra with example.	5	CO2	K1
d.	Define Number system. Mention difference between signed number and unsigned number with examples.	5	CO2	K1
4.a.	What is memory? Write down the working function of ALU.	5	CO3	K3
b.	Explain the working principle of Virtual Mapping.	5	CO3	K1
	(OR)			
c.	Differentiate between Programmed I/O and memory mapped I/O.	5	CO4	K3
d.	What is data transfer? Explain the concept of Asynchronous data transfer.	5	CO4	K1
5.a.	Explain the Von-Neumann architecture computer with neat diagram.	5	CO1	K2
b.	Differentiate between SIMD and MISD.	5	CO5	K3
	(OR)			
c.	What is peripheral device? Explain different types of peripheral devices.	5	CO4	K3
d.	Explain the different data transfer modes of DMA.	5	CO4	K1
6.a.	What is parallel processing? Explain with neat diagram.	5	CO5	K1
b.	Explain the concept of Flynn's classification with neat diagram.	5	CO5	K2
	(OR)			
c.	Short Notes: - i. Vector processing ii. Pipelining	5	CO5	K1
d.	Short Notes: - i. Instruction Code ii. Instruction Set	5	CO1	K1

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