DE: GR20A2074 | GR 20 | SET -2

II B.Tech II Semester Regular Examinations, August/September 2023

COMPUTER ORGANIZATION
(Common to CSE, IT, AIML & DS)

3 hours | Max Marks: 70

uctions:

Question paper comprises of **Part-A** and **Part-B**
Part-A (for 20 marks) must be answered at one place in the answer book.
Part-B (for 50 marks) consists of **five questions with internal choice,** answer all questions.
CO means Course Outcomes. **BL** means Blooms Taxonomy Levels.

PART – A
(Answer ALL questions. All questions carry equal marks)

10 * 2 = 20 Marks

a.	List any four types of computers.	[2]	CO1	BL1
b.	What are the ways of detecting errors in the received message?	[2]	CO1	BL2
c.	What are micro operations? Give its types.	[2]	CO2	BL1
d.	Explain the function of control memory	[2]	CO2	BL2
e.	List various types of instruction formats	[2]	CO3	BL1
f.	Illustrate Register indirect addressing mode with an example.	[2]	CO3	BL2
g.	What is the function of Input Output Processor?	[2]	CO4	BL1
h.	Explain briefly the concept of Pipelining.	[2]	CO4	BL2
i.	Write any four differences between RAM and ROM.	[2]	CO5	BL1
j.	Explain briefly the cache coherence.	[2]	CO5	BL2

PART – B
(Answer ALL questions. All questions carry equal marks)

5 * 10 = 50 Marks

(a)	List and explain different types of computers with examples. Also mention their advantages and disadvantages.	[5]	CO1	BL1
(b)	Perform the arithmetic operations in binary using 2's complement representation for negative numbers. i) (+60)+(+70) and (-50)+(-60) ii) (+62)+ (-23) and (-72)-(-33).	[5]	CO1	BL1

OR

(a)	Explain the implementation of common bus using multiplexers	[5]	CO1	BL2
(b)	Explain in detail about Error detection codes with suitable examples using parity.	[5]	CO1	BL2

4. (a) Explain about instruction cycle with the help of the example.

   (b) Distinguish between hardwired control and micro programmed control.

OR

5. (a) Demonstrate the Address sequencing with an example.

   (b) Describe the role of timing and control unit in the execution of an instruction.

6. (a) Illustrate the Stack organization with suitable example.

   (b) Define an addressing mode? Explain different addressing modes with examples.

OR

7. Discuss various instruction formats with suitable examples. [10]

8. (a) Discuss the need of Direct Memory Access with a suitable diagram. [5]

   (b) Demonstrate about Instruction pipeline with an example. [5]

OR

9. (a) Discuss all the peripheral devices in detail. [5]

   (b) Describe the importance of pipelining concept and mention its advantages. [5]

10 (a) What are the different mapping techniques used in Cache memory? Explain in detail the Associative mapping with an example. [5]

   (b) Explain the concept of virtual memory in detail. [5]

OR

11 Discuss different interconnection structures used in multiprocessors? [10]

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