CODE: GR20A2074 | GR 20 | SET -2

II B.Tech II Semester Regular Examinations, July/August 2022

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

Time: 3 hours | Max Marks: 70

Instructions:

1. Question paper comprises of **Part-A** and **Part-B**
2. **Part-A** (for 20 marks) must be answered at one place in the answer book.
3. **Part-B** (for 50 marks) consists of **five questions with internal choice,** answer all questions.

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

10 * 2 = 20 Marks

1. a.	Draw and label the Block diagram of Digital Computer.	[2]
b.	What is the purpose of BUN instruction?	[2]
c.	What is Register Transfer?	[2]
d.	What is OPCODE?	[2]
e.	Write a short note on Machine language instruction formats.	[2]
f.	How the floating-point numbers are represented and used in digital arithmetic operations?	[2]
g.	What is Indirect Addressing mode? Give an example?	[2]
h.	What is vector processing?	[2]
i.	Define Hit ratio.	[2]
j.	List out the classification of multiprocessors.	[2]

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

5 * 10 = 50 Marks

2. **(a)** What is RTL? Explain with suitable examples? What is its significance? **[10]**
   (b) Explain Arithmetic Micro operations.

OR

3. Show the Construction of a Bus System with four Registers and explain various functions used to select Registers by Bus. **[10]**

4. **(a)** With examples explain Logic micro-operations. *[10]*
   (b) Explain the following: (i) Control Memory (ii) Control Address Register (iii) Sequencer

OR

5. (a) Compare and Contrast between Hardwired control and Micro programmed contro
   (b) Explain about the shift micro-operations.

6. Explain various Addressing Modes with Numeric examples.

OR

7. (a) Compare RISC & CISC.
   (b) Explain different types of instruction formats.

8. (a) With a neat diagram explain the Handshaking Mechanism.
   (b) Explain Arithmetic Pipeline with example.

OR

9. (a) What is DMA? Using block diagram explain DMA transfer.
   (b) Explain Instruction Pipeline in detail.

10. What is Virtual Memory? Explain address mapping with pages and associati memory page table.

OR

11. (a) What are the various forms available for establishing an interconnection network i a multiprocessor system? Explain.
    (b) Give a neat sketch that illustrates the components in a typical memory hierarchy.

*****