CBCS SCHEME

USN | | | | | | | | | | |

18EC35

Third Semester B.E. Degree Examination, June/July 2024
Computer Organization and Architecture

Time: 3 hrs. Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1 a. Explain the operation of a computer with neat block diagram. **(10 Marks)**
b. Explain system software functions in detail. **(05 Marks)**
c. Explain bus structures. **(05 Marks)**

OR

2 a. Define byte addressability, Big-endian and Little-endian assignment **(06 Marks)**
b. Explain following registers :
i) PC ii) IR iii) MAR. **(06 Marks)**
c. Explain basic performance equation. **(08 Marks)**

Module-2

3 a. List and explain the generic addressing modes with assembler syntax and addressing function. **(10 Marks)**
b. What are assembler directives? Explain any five assembler directives. **(10 Marks)**

OR

4 a. Explain stack concepts with diagram. **(08 Marks)**
b. Explain shift and rotate operations with examples. **(06 Marks)**
c. List the steps involved in 'CALL' and 'RETURN' instructions. **(06 Marks)**

Module-3

5 a. Explain memory mapped I/O access. **(10 Marks)**
b. What is an interrupt? With an example explain the concept of interrupt. **(10 Marks)**

OR

6 a. Explain Daisy chain method used for handling simultaneous interrupt request. **(08 Marks)**
b. Explain the use of DMA controller in computer system. **(06 Marks)**
c. Explain the concept of vectored interrupt. **(06 Marks)**

Module-4

7 a. Explain the internal organization of 2M × 8 dynamic memory chip. **(10 Marks)**
b. Explain virtual memory organization. **(10 Marks)**

OR

8	a.	Explain secondary storage device.	**(08 Marks)**
	b.	Explain cache memory and its relevant terms.	**(06 Marks)**
	c.	Explain different types of non volatile memory.	**(06 Marks)**

Module-5

9	a.	Discuss the single bus organization of data path inside a processor.	**(10 Marks)**
	b.	Draw and explain multiple bus organization of CPU.	**(10 Marks)**

OR

10	a.	Explain block diagram of a complete processor.	**(08 Marks)**
	b.	Explain micro programmed control concept.	**(06 Marks)**
	c.	Discuss the organization of hardwired controlled unit.	**(06 Marks)**

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