



TKRCET
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R22 Regulation
TKR COLLEGE OF ENGINEERING AND TECHNOLOGY
(Autonomous, Accredited by NAAC with 'A+' Grade)

Subject code: 4E3FB

B.Tech III Semester Regular Examinations, February 2024

COMPUTER ORGANIZATION AND ARCHITECTURE
(Information Technology)

Maximum Marks: 60

Date: 26.02.2024 Duration: 3 hours

- Note:**
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 10 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit.
 4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A		CO	Bloom Tx
All the following questions carry equal marks (10x1M=10 Marks)			
1.a)	Define Accumulator.	CO1	L1
b)	Define Micro-Instruction.	CO1	L1
c)	Define Program Counter.	CO2	L1
d)	What is CISC and its advantages?	CO2	L1
e)	What are the 5 stages of pipelining?	CO3	L1
f)	What is the purpose of a pipeline register?	CO3	L1
g)	Define DMA.	CO4	L1
h)	Define Virtual Memory.	CO4	L1
i)	What is an Interrupt Service Routine?	CO5	L1
j)	List any 3 Interconnection standards in I/O Organization.	CO5	L1
Part-B			
Answer All the following questions. (5X10M=50Marks)			Bloom Tx level
2	Explain the concept of floating-point representation in computer systems. [10M]	CO1	L3
OR			
3	Explain the following with an example. i) Register Addressing Mode. [2M] ii) Immediate Addressing Mode. [2M] iii) Index Addressing Mode. [2M] iv) Relative Addressing Mode. [2M] v) Direct Addressing Mode. [2M]	CO1	L3
4	How does the Basic Processing Unit handle arithmetic and logic operations in computing tasks? [10M]	CO2	L1
OR			
5	Demonstrate the complexity of instruction sets in CISC architectures. [10M]	CO2	L2
6	Explain the Process of Execution of Branch Instructions. [10M]	CO3	L2
OR			

7	a) Explain the pipeline stages in detail. [5M] b) Explain data dependency. [5M]	CO3	L2
8	Explain Memory Hierarchy of a basic computer system and explain briefly. [10M]	CO4	L3
	OR		
9	Write a short note on i) RAM [3M] ii) ROM [3M] iii) Hit Ratio [4M]	CO4	L1
10	Illustrate the role of I/O organization in enhancing the overall functionality and responsiveness of computer systems. [10M]	CO5	L2
	OR		
11	Explain the roles of PCI, SCSI, SATA and USB in ensuring efficient data transfer and system performance. [10M]	CO5	L3