R20 Regulation *Subject code: 3P4FB*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech IV Semester Supplementary Examinations, December 2025

COMPUTER ORGANIZATION

(IT)

Maximum Marks: 70 Date: 18.12.2025 Duration: 3 hours

Note: **1.This question paper contains two parts A and B.**
2. Part A is compulsory which carries 20 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

All the following questions carry equal marks (10X2M=20 Marks)		Marks	CO	BTL
1	Define Digital Computer.	2M	1	L1
2	Compare Hardwired control and Micro programmed control.	2M	1	L1
3	What are the advantages of DMA?	2M	2	L1
4	Explain different type of Hardware and Software interrupts.	2M	2	L1
5	Explain content addressable memory.	2M	3	L1
6	Explain about auxiliary memory in memory organization.	2M	3	L1
7	Discuss the purpose of INTR in 8086 micro-processor.	2M	4	L1
8	Write the memory Read statement in 8086 micro-processor.	2M	4	L1
9	Explain ROR and ROL 8086 instruction.	2M	5	L1
10	Explain stoning instruction of 8086.	2M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
11	Draw the flow chart for interrupt cycle of a basic computer and explain.	10M	1	L2
	OR			
12	Explain micro programmed address sequencer with neat diagram.	10M	1	L2
13	A CPU with 20 MHz clock in connected to a memory unit whose access time is 40ns. Formulated a read and write timing diagrams, using a READ strobe and a WRITE strobe. Include the address in the timing diagram.	10M	2	L2
	OR			
14	Draw the block diagram of DMA controller and DMA Transfer of data with relevant information.	10M	2	L2
15	Describe associate mapping in cache memory.	10M	3	L2
	OR			
16	Explain virtual memory concept and how the logical address mapped to the physical address with numerical example.	10M	3	L2

17	Draw and explain the PIN configuration of 8086 microprocessor.	10M	4	L2
	OR			
18	What is the difference between effective address and physical address of an instruction in 8086? Explain with an example.	10M	4	L2
19	Write a program 8086 AL, for displaying the string using library functions	10M	5	L2
	OR			
20	Discuss about evaluation of arithmetic expression in 8086 assembly language programming.	10M	5	L2