R18 Regulation *Subject code: 2P3EC*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech III Semester Supplementary Examinations, December 2024

Digital Logic Design

(CSE)

Maximum Marks: 70 Date:06.12.2024 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 which carries 10M.
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)		CO	Bloom Tx
1	Define the term digital.	1	L1
2	Draw the logic diagram and truth table for AND gate.	1	L1
3	Define combinational logic circuit.	2	L1
4	What is binary decoder?	2	L1
5	Draw the block diagram of Sequential circuit?	3	L1
6	What is a latch?	3	L1
7	What is assembly level programming?	4	L1
8	What are the functional parts of 8086 CPU?	4	L1
9	Write the function of PAL?	5	L1
10	Define memory.	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)			CO	Bloom Tx
11	A) Represent the decimal number 8620 in i) BCD ii) Excess-3 code	[5M]	1	L2
	B) Determine the value of base x if (211) x= $(152)_8$	[5M]		
	OR			
12	Explain about different logical gates and universal gates.	[10M]	1	L2
13	A) Design steps for a combinational circuit with example.	[5M]	2	L3
	B) What are the steps involved in analysis procedure?	[5M]		
	OR			
14	Write Short notes on A) Encoder B) Decoder	[5+5M]	2	L2
15	Write a short notes on i.Bus Transfer ii.Memory Transfer	[10M]	3	L2
	OR			
16	A) What is Latch? What are the different types of Latches?	[5M]	3	L2
	B) Draw and explain the operation of D-Latch.	[5M]		

17	Write program addition of TWO 16 bit no.	[10M]	4	L2
	OR			
18	A) List and explain Data Copy/Transfer Instructions. B) Explain about operators in 8086.	[5M] [5M]	4	L2
19	Explain about different types of RAM &ROM?	[10M]	5	L2
	OR			
20	Implement the following function using PLA F1(A,B,C)= $\sum(0,1,2,4)$ F2(A,B,C)= $\sum(0,5,6,7)$	[10M]	5	L3