

PRIYADARSHINI COLLEGE OF ENGINEERING, NAGPUR

Department: Information Technology

Semester: III

Section: A/B

CAT- II (2023-24)

Subject: Digital Electronics & Fundamental of Microprocessor

Subject Code: 3BEIT303

Duration: 1.5 Hrs

Max. Marks: 35

Note:

- 1) Solve Question 1 OR Questions No. 2.
- 2) Solve Question 3 OR Questions No. 4.
- 3) Solve Question 5 OR Questions No. 6.
- 4) All questions carry marks as indicated.

Q. No.	Question	Marks	CO	BL
1a.	i) A feature that distinguishes the JK flip flop from the SR flip flop is the _____ A) Toggle condition B) Preset Input C) Type of clock D) Clear input	1	CO4	L1
	ii) A 4 bit counter is used to count form 0, 1, 2, ...n. value of 'n' is A) 16 B) 15 C) 31 D) 32	1	CO4	L3
1b.	Design Mod-5 synchronous counter using T flip flop.	5	CO4	L3
1c.	Design lock free counter to count in the following sequence. 4 → 6 → 7 → 3 → 1 → 4 Use JK flip flop for design	7	CO4	L3

OR

2a.	i) How many flip-flops circuits are needed to construct MOD-16 counter? A) 2 B) 3 C) 4 D) 5	1	CO4	L3
	ii) Which of the following does not come in sequential circuit? A) Flip flop B) Counter C) Latch D) Full Adder	1	CO4	L3
2b.	Differentiate between combinational circuits and sequential circuits.	5	CO4	L1
2c.	Convert the following Flip-Flop : i) S-R to J-K Flip-flop. ii) J-K flip flop to D flip-flop.	7	CO4	L3
3a.	i) How many hardware interrupts are available in 8085? A) 4 B) 5 C) 6 D) 8	1	CO5	L1
	ii) How many address lines are available in 8085? B) 14 B) 15 C) 16 D) 8	1	CO5	L1

