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Examination: Odd Semester Examination 2024 (Backlog)

Paper Name: Digital Electronics
Time: 3 Hours

Paper Code: BTCSE 304
Maximum Marks: 75

Section A

Note: Attempt all the questions. Each question carries equal marks. (7x5=35)

Q. No.	Question	Marks	CO	BL
1.	Perform the following conversions: (a) $(97845)_{10}$ into its hexadecimal equivalent (b) $(495)_{10}$ to binary equivalent.	5	CO1	BL4
2.	Discuss and explain universal gates.	5	CO1	BL2
3.	Design a full adder with the help of XOR gate	5	CO2	BL6
4.	Explain the working of a shift register with example.	5	CO3	BL3
5.	Explain successive approximation ADC with the help of a neat diagram.	5	CO4	BL2
6.	Discuss cache memory in brief.	5	CO5	BL3
7.	Design a 3-bit odd parity generator circuit.	5	CO2	BL6

Section B

Note: Attempt any four (4) Questions. Each question carries equal marks (4x10=40)

Q. No.	Question	Marks	CO	BL
1.	Design a Mod 8 ripple counter.	10	CO3	BL6
2.	Minimize the following using K-Maps i) $F = \sum m(9,10,12,13,14,15)$ ii) $F = \sum m(0,1,2,3,4,6,8,11)$	10	CO2	BL4
3.	Explain the working of SR and T flip flop-flop.	10	CO4	BL2
4.	Discuss memory hierarchy in detail.	10	CO5	BL3
5.	Discuss R-2R ladder digital to analog converter with the help of a neat diagram.	10	CO5	BL3

6.	Write a short note on any two of the followings: a. RAM b. PLA c. Look Ahead Carry Adder d. Half subtractor	10	CO1, CO3, CO5	BL2
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BL: Blooms Taxonomy Level; (1-remembering, 2-understanding, 3-apply, 4-analyse, 5- evaluate, 6-create)