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SUBJECT CODE NO: BB-2456

FACULTY OF SCIENCE AND TECHNOLOGY

B.Sc. (CBCGS)(Pattern 2022) F.Y SEM II

Examination November / December 2025

Computer Science Paper-IV Digital Electronic

[Time: 1:30 Hours]

[Max. Marks: 40]

Please check whether you have got the right question paper.

N. B

- (1) All questions are compulsory
- (2) All questions carry equal marks

- Q1 (a) Explain different types of logic gates with symbol & truth table. 10
OR
(a) Explain half adder with suitable diagram. 05
(b) What K-Map? Explain 3, variable K-Map 05

- Q2 (a) What is flip flop? Explain JK flip flop with suitable diagram & truth table. 10
OR
(a) Explain MOD 8 counter with suitable circuit diagram 05
(b) Explain ripple counter with neat diagram 05

- Q3 Write short on (Any two) 10
(a) De Morgan's theorem
(b) De-multiplexer
(c) Clocked RS Flip Flop
(d) Ring counter

- Q4 Multiple choice questions 10

- 1) The boolean expression of an OR gate is ____
a) A.B b) A'B+AB' c) A+B d) A'B
- 2) Which of the following is a universal logic gate?
a) OR b) AND c) XOR d) NAND
- 3) The Number of Terms in a switching function of four variables are
a) 4 b) 8 c) 16 d) 12
- 4) K-map is used for ____
a) logic minimization b) expression maximization
c) summing of parity bits d) logic gate creation
- 5) What is the standard form of S-R flip flop?
a) Set Reset b) Simple-Reset c) Single-Reset d) None of the above

- 6) In which flip flop the present input will be the next output?
a) S-R b) J-K c) D d) T
- 7) Ripple counters are also called _____.
a) SSI counters b) Asynchronous counters
c) Synchronous counters d) VLSI counters
- 8) In digital logic, a counter is a device which _____.
a) Counts the number of outputs
b) Stores the number of times a particular event or process has occurred
c) Stores the number of times a clock pulse rises and falls
d) Counts the number of inputs
- 9) In K-map a pair removes how many variables
a) 1 b) 2 c) 3 d) 4
- 10) Which one of the following is a type of combinational circuit?
a) Demultiplexer b) Multiplexer
c) Both a and b d) None of the above

