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SUBJECT CODE NO:- B-2097
FACULTY OF SCIENCE & TECHNOLOGY
B.Sc. F.Y. (Sem-I)
Examination November/December- 2022
Computer Science Paper-II CS02
Digital Electronics

[Time: 1:30 Hours]

[Max. Marks:50]

Please check whether you have got the right question paper.

- N.B
1. Attempt all questions
 2. Illustrate your answer with suitable example.
- Q.1
- a) Explain the working of $E\chi$ - OR $E\chi$ - \mathcal{N} OR gate with suitable diagram and truth table? 10
 - b) What is demultiplexer? Explain 2:4 demultiplexer? 10
- OR
- c) What is flipflop? Explain how JK flipflop can work as a T- flipflop with necessary diagram and truth table. 10
 - d) Explain Demorgan's theorems with suitable example? 10
- Q.2
- a) Draw the K-map for the following example function: 10

$$F = \sum m(0,3,4,5,7)$$
 - b) Explain the working of synchronous serial counter? 10
- OR
- c) Write a short note on following (any four) 20
 - 1) Minterm and Maxterm
 - 2) Half adder
 - 3) Race Around Condition
 - 4) Johnson Counter
 - 5) Parallel- in parallel- out shift register.

Q.3 Multiple Choice Questions.

10

- 1) Sum of the Binary numbers $10111 + 1101 + 1011$ is _____
 - a) 101101
 - b) 101111
 - c) 110110
 - d) 111011

- 2) Division of binary number 10110 by 10, the quotient is _____
 - a) 1010
 - b) 1110
 - c) 0101
 - d) 1011

- 3) The _____ gate is also called any or all gate.
 - a) OR
 - b) AND
 - c) EX-OR
 - d) NONE

- 4) A logic gates is an electronic circuit which _____
 - a) Makes logic diagrams
 - b) Makes logic decision
 - c) Greats logic
 - d) Makes decision

- 5) BCD Stands for _____
 - a) Binary code decimal
 - b) Binary coded digit
 - c) Binary coded decimal
 - d) Binary code decode

- 6) Most demultiplexers facilitates which type of conversation _____
- a) Single input, single output
 - b) Multiple output, multiple input
 - c) Single input, multiple output
 - d) Multiple input, single output
- 7) $(46)_{10} = (?)_2$
- a) 11101
 - b) 101110
 - c) 10101
 - d) 111101
- 8) _____ gate always gets output as inverse of the input
- a) OR
 - b) EX-OR
 - c) NOR
 - d) NOT
- 9) A byte contains _____ bits
- a) 8
 - b) 16
 - c) 32
 - d) 7
- 10) In _____ numbers system, 16 distinct symbols are used to specify any number
- a) Octal
 - b) Hexadecimal
 - c) Binary
 - d) Decimal