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SUBJECT CODE NO: - 2097
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. F.Y Sem-I
Examination March/April-2022 (To be held in June/July-2022)
Computer Science Paper-II CS02
Digital Electronics

[Time: 1 : 53 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) What is gate? Explain Basic gates with logic diagram and truth table? 10

b) State and explain Derorgan's 1st and 2nd theorems? 10

OR

c) Perform the following: 10
1) $(10110111)_2 = (?)_{10}$
2) $(29)_{10} = (?)_2$
3) $(45)_8 = (?)_2$
4) $(BA)_{16} = (?)_8$
5) $(AB)_{16} = (?)_8$

d) Explain the Distributive and commutive law with truth table? 10

Q.2 a) What is adder? Draw and explain half adder with truth table? 10

b) What is k-map? Explain octet, pairs and quard with example? 10

OR

c) Write short notes one (Any Four) 20

1) 2:4 Demultiplexer
2) Ripple counter
3) BCD to Decimal Decoder
4) Half substrate
5) T – flip flop

Q.3 Multiple choice questions. 10

1) The output of an and gate in "High" it and only if all it's inputs are ----------

a. High
b. Low
c. Inverse
d. None

2) A byte contains ---------- bits
   a. 16
   b. 8
   c. 4
   d. 32

3) The radix of binary number system is ----------
   a. 4
   b. 16
   c. 8
   d. 2

4) Binary can version of Hexadecimal number 42f6 is ----------.
   a. 000101110011
   b. 0100001011110110
   c. 1010101100
   d. 1000110001

5) In --------- number system, 16 distinct symbols are used to specify any number.
   a. Decimal
   b. Octal
   c. Hexadecimal
   d. Binary

6) 1's complements of 0001010 is ----------
   a. 1101011
   b. 1110010
   c. 1111010
   d. 1110101

7) ---------- gats always get output as inverse of the input
   a. NANP
   b. NOR
   c. NOT
   d. NONE

8) The output of an EX-NOR us "High" if and only if all its inputs are ----------
   a. Same
   b. Not same
   c. Inverse
   d. None

9) Computer uses ---------- to transmit the data
   a. Gesture
   b. Signal
   c. Voice
   d. None

10) $(10001)_2 = (?)_{10}$
   a. 18
   b. 19
   c. 17
   d. 16