

S. B. Roll. No.....

DIGITAL ELECTRONICS
4th Exam/Elect/MECHATRONICS/4895/Nov'24
(For 2018 Batch Onwards)

Duration: 3Hrs.

M.Marks:75

SECTION-A

Q1. Do as directed.

15x1=15

- a. LED stands for_____.
- b. Write full form of CMOS.
- c. LCD stands for_____.
- d. EPROM stands for_____.
- e. An A/D converter translates _____input voltage to _____output.
- f. A ripple counters is_____ sequential circuit.
- g. A group of memory elements is called_____.
- h. A latch is used to store_____ of data.
- i. A multiplexer changes_____ data into _____data.
- j. BCD stands for_____.
- k. Full subtractor has_____ outputs.
- l. The_____ family has good noise immunity.
- m. A NAND gate acts as _____AND gate.
- n. In octal system, there are_____ digits.
- o. Gray code is a _____.

SECTION-B

Q2. Attempt any six questions.

6x5=30

- i. Define and explain universal shift register.
- ii. Explain 4:1 multiplexer in detail.
- iii. Write differences between combination and sequential circuits.
- iv. Explain the working of half adder circuit. Draw its truth table.
- v. Differentiate between RAM and ROM.
- vi. Write differences between analog and digital signals.
- vii. Convert following binary numbers to octal: a) 101111100 b) 110101
- viii. What do you mean by ASCII code, why is it needed?

SECTION-C

Q3. Attempt any three questions.

3x10=30

- a. Draw the symbol and truth table of logic gates.
- b. Using K-map minimize:
 $F(A, B, C, D) = \sum m(0,1,5,3,2,11,10)$
- c. Write short note on: (a) Seven segment display (b) Ring counter.
- d. Explain the working of J-K flip flop with its truth table.

P.S.B.T.E.&I.T.

