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

DIGITAL ELECTRONICS
3rd Exam/ECE/CSc/IT/9502/Nov'24
(For 2023 batch)

Duration: 3Hrs. **M.Marks:50**

SECTION-A

Q1. Do as directed any nine of the following. **9x1=9**

a. Full form of EBCDIC is _____.
b. Full form of ASCII IS_____.
c. _____and _____ are the universal gates.
d. What is the radix of an octal number?
e. Define De Morgan's theorem.
f. How many select lines are there in a 16:1 multiplexer?
g. PIPO stands for_____.
h. LED stands for_____.
i. Race around condition can be avoided by using master slave JK flip flop. (T/F)
j. A flip flop is a memory element. (T/F)
k. A half adder adds ____bits.
l. 1's complement of 110101 is _____.

SECTION-B

Q2. Attempt any five questions. **5x4=20**

i. Differentiate between analog and digital signals.
ii. Draw and explain the circuit of half adder.
iii. Define SSI, MSI, LSI, VLSI and ULSI.
iv. Draw symbol and truth table of NOT, AND, NOR gate.
v. Draw logic circuit of 4:1 multiplexer and explain its working.
vi. What are shift registers? Give its types.
vii. Write down the applications of A/D and D/A converters.

SECTION-C

Q3. Attempt any three questions. **3x7=21**

a. Discuss symbol and truth table of OR, AND, NOT, NAND, NOR gates.
b. What is a latch? Explain working principle of JK master /slave flip flop and draw its truth table
c. Explain the working of 3-bit asynchronous counter.
d. Write a short note on i) Decoder ii) Seven Segment display
e. Minimize and realize following logic functions using K-map
f (A, B, C,D) = Σm (0,1,2,5,8,9,10)