Reg. No ..... Name **22U108**

B.Sc. DEGREE END SEMESTER EXAMINATION : OCTOBER 2022

SEMESTER 1 : COMPUTER APPLICATION

COURSE : **19U1CRCAP1 : DIGITAL ELECTRONICS AND MICRO PROCESSOR**

(For Regular - 2022 Admission and Improvement / Supplementary - 2021/ 2020/2019 Admissions)

Time : Three Hours Max. Marks: 75

PART A

Answer All (1 mark each)

1. Find the BCD of (25)1.
2. Convert (110011.1001)2 to decimal.
3. State idempotent law.
4. Define counters.
5. Define number system.
6. Define bistable device.
7. What you mean by address bus?
8. What is the use of NOT gate ?
9. What you mean by registers?
10. What you mean by octal number system? Give example.

(1 x 10 = 10)

PART B

Answer any 8 (2 marks each)

11. What are the use of registers?
12. Add 5678 + 1478 using excess-3 code.
13. Differentiate sequential and combinational circuit.
14. Subtract 1100011 - 11100 Using 1's Compliment.
15. Differentiate synchronous and asynchronous counters.
16. Explain about D flip-flops.
17. Explain Maxterms with an example.
18. Differentiate Odd Parity and Even Parity bit?
19. What is direct addressing mode? Write the syntax and an example.
20. What is register addressing mode? Write the syntax and an example.

(2 x 8 = 16)

PART C

Answer any 5 (5 marks each)

21. Explain the method of converting a hexadecimal number to decimal,binary and octal with examples.
22. Draw the block diagram of ripple counter and Explain it.
23. Write the steps to subtract two numbers using r's compliment with an example.
24. Prove NAND gate is a Universal gate.
25. Draw 2*4 decoder with truth table and enable inputs.
26. Convert (67154)8 to binary ,decimal and hexadecimal numbers
27. Explain about decoders and draw 3x8 decoder with enable inputs.

(5 x 5 = 25)

PART D

Answer any 2 (12 marks each)

28. What are the different types of registers in 8086?
29. Explain about encoders and decoders with an example.
30. Explain the steps to convert SOP and POS to its standard normal form and convert the expressions given below. a) F(A,B,C) = (A+B).(B+C).(A+C) b) F(A,B,C) = AC+AB+BC
31. Explain about Universal gates.

(12 x 2 = 24)