B.Sc. DEGREE EXAMINATION,NOVEMBER 2019
I Year I Semester
Digital Logic Fundamentals

Time : 3 Hours   **Max.marks :75**

Section A $(10 \times 2 = 20)$ Marks

Answer any **TEN** questions

1. What are the available different number systems.
2. Explain any two logic gates with truth table.
3. Define Boolean algebra.
4. What are universal gates?
5. Define encoder.
6. Define decoder.
7. What is sequential logic?
8. What is shift register?
9. What are counters?
10. What is RAM and ROM?
11. Do binary addition for the numbers (convert to binary) (a) $85_{10} + 12_{10}$ (b) $10_{10} + 15_{10}$
12. Do binary subtraction using 2's complement (convert to binary) (a) 85_{10} - 12_{10} (b) 15_{10} - 10_{10}

Section B $(5 \times 5 = 25)$ Marks

Answer any **FIVE** questions

13. Write short notes on number system.
14. Explain De Morgan's Theorem.
15. Differentiate between multiplexer and demultiplexer?
16. Discuss about D and JK flip flops in digital.
17. What is memory addressing?
18. Explain types of RAM.
19. Solve the Equation
    (a) SOP F $= \Sigma(0, 5, 7, 8, 13, 15)$
    (b) POS F $= \pi(1, 3, 4, 6, 9, 11, 12, 14)$

Section C $(3 \times 10 = 30)$ Marks

Answer any **THREE** questions

20. Explain in detail about fundamentals of digital logic.

21. How to construct Kmap? explain with suitable example.

22. Explain PAL and PLA.

23. Discuss in detail about JK master slave flip flop.

24. Explain in detail about Different types of Asynchronous counters?

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