COURSE CODE: BIT 1407   **Time: 3 hours**

COURSE TITLE: Digital Principles and Applications   **Max Marks: 75**

PART – A

Answer any **FIVE** questions   **(5x15=75)**

1. Discuss about the Boolean rules and laws. (10M)

    State and prove De morgan's theorem. (5M)

2. List out logic gates and explain it with truth table and diagram.

3. Illustrate the parity generator and checkers with a logic diagram.

4. Draw the circuits S-R flip flop and explain its working.

5. Write about ring counter with neat diagram?

6. Find a minimal SOP representation for $f(A,B,C,D) = \sum m (0,2,3,7,11,13,14,15)$ using K-map method. Draw the circuit of the minimal expression.

7. Define shift register and explain any three types.

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