049

FACULTY OF SCIENCE

B.Sc. (CBCS) V – Semester Examination, November / December 2019

SUBJECT : ELECTRONICS
(DSC) Paper - V
(Digital Electronics)

Time : 3 Hours **Max Marks : 60**

PART – A (5x3 = 15 Marks)
(Short Answer Type)

Note : All the following FIVE question.

1. Find the decimal equivalent of binary number 1111
2. Explain the working of AND gate with its circuit diagram and truth table.
3. Prove the Boolean identity (A + B) (A + C) = A + BC
4. Explain the operation of a decoder
5. Explain working of R-S flip flop with diagrams and truth table.
6. Explain Ring Counter.
7. Explain the working of synchronous counter.
8. Differentiate between static and dynamic RAM.

PART – B (45 Marks)
(Essay Answer Type)

Note : All the following three question.

9. a. What is 2's complement of binary number? Explain the subtraction of binary numbers using 2's complement method. 11

OR

b. Draw the circuit diagram of Half adder and Full adder and give their truth tables.

10. a. Write and prove the De-Morgan theorems. 11

OR

b. Draw the circuit diagram of De-multiplexer and discuss its operation with help of truth tables

11. a. Describe the working of Master Slave JK flip flop with neat circuit diagram. 11

OR

b. Explain Universal shift register using IC 7496.

12. a. State the difference between ROM, PROM and EPROM. 12

OR

b. Explain working of ripple counter (IC7493) with truth table and timing diagrams.

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