One Two academy

Std 12 Physics Unit -10

Time: 60 minutes ***Maximum marks: 35***

Choose the correct answer:- ***5 x 1 = 5***

1. The barrier potential of a silicon diode is approximately

(a) 0.7 V (b) 0.3 V (c) 2.0 V (d) 2.2 V

2. The zener diode is primarily used as

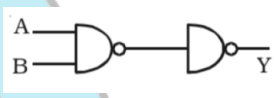
(a) Rectifier (b) Amplifier (c) Oscillator (d) Voltage regulator

3.The frequency range of 3 MHz to 30MHz is used for

(a) Ground wave propagation (b) Space wave propagation

(c) Skywave propagation (d) Satellite communication

4.The following arrangement performs the logic function of _____ gate



(a)AND (b) OR (c) NAND (d) EXOR

5. According to the laws of Boolean algebra, the expression (A + AB) is equal to

(a) A (b) AB (c) B (d) $\bar{A}$

Answer any three of the following questions:- ***3 x 2 = 6***

6.What is doping.

7. A diode is called as unidirectional device. Explain.

8. State De-Morgans's laws.

9. Give a circuit diagram for (i) EXOR (ii) NOR gate.

Answer any three of the following questions: **3 x 3 = 9**

10. Distinguish Intrinsic conductors and extrinsic conductors.

11. Define a) skip distance b) skip area.

12. Fibre optics communication is gaining popularity among the various transmission media - Justify.

13. What is meant by satellite combination ? Give its aplliactaion.

Answer the following questions: **3 x 5 = 15**

14.a. Give the Barkhausen condition for sustained oscillations.

b.What is Ground wave propagation.

OR

Elucidate the formation of a n-type extrinsic semiconductor.

15. Draw the circuit diagram of a halfwave rectifier and explain its working.

OR

Draw the circuit diagram of a full wave rectifier and explain its working.

16. What is LED? Give the principle of its operation with a diagram.

OR

Transistor functions as switch. Explain.

All the Best