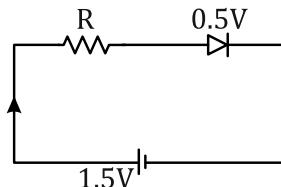
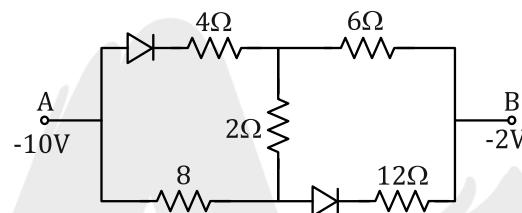


DPP 03

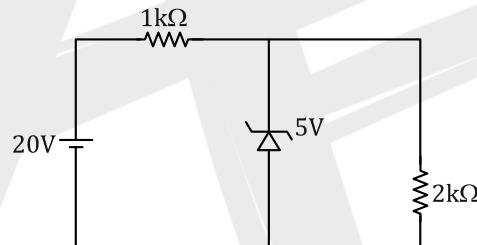
- Q.1** The diode used in the circuit shown in the figure has a constant voltage drop of 0.5 V at all currents and a maximum power rating of 100 milliwatts. What should be the value of the resistor R (in ohm) connected in series with the diode for obtaining maximum current?



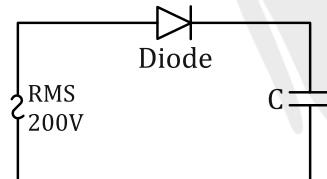
- Q.2** In the following circuit, the equivalent resistance (in ohm) between A and B is



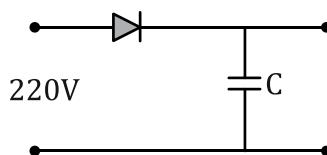
- Q.3** Find the current flowing through the zener diode (in mA) in the following figure.



- Q.4** A sinusoidal voltage of rms value 200 volts is connected to the diode and capacitor C in the circuit shown so that half wave rectification occurs. The final potential difference (in volt) across C is



- Q.5** A diode is connected to 220 V (rms) ac in series with a capacitor as shown in figure. The voltage across the capacitor is $x\sqrt{y}$ volts. Find $\frac{x}{y}$



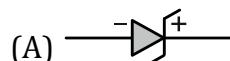
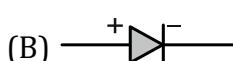
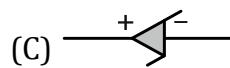
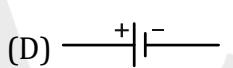
Q.6 Zener breakdown in a semiconductor diode occurs when

- (A) forward current exceeds certain value
- (B) reverse bias exceeds certain value
- (C) forward bias exceeds certain value
- (D) potential barrier is reduced to zero

Q.7 Zener breakdown takes place if

- | | |
|-----------------------------|-----------------------------|
| (A) doped impurity is low | (B) doped impurity is high |
| (C) less impurity in N-part | (D) less impurity in P-part |

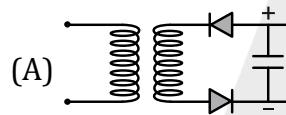
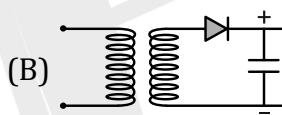
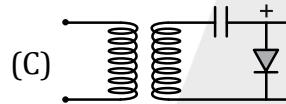
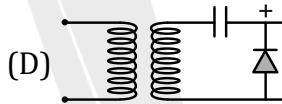
Q.8 The correct symbol for zener diode is

- | | |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| (A)  | (B)  |
| (C)  | (D)  |

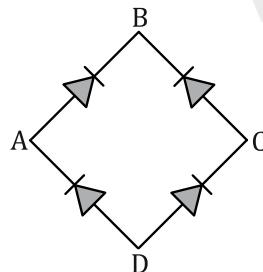
Q.9 The maximum efficiency of full wave rectifier is

- (A) 100%
- (B) 25.20%
- (C) 40.2%
- (D) 81.2%

Q.10 Which is the correct diagram of a half-wave rectifier?

- | | |
|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| (A)  | (B)  |
| (C)  | (D)  |

Q.11 In the diagram, the input is across the terminals A and C and the output is across the terminals B and D, then the output is



- (A) zero
- (B) same as input
- (C) full wave rectifier
- (D) half wave rectifier



ANSWER KEY

- | | | | | | |
|--------|---------|------------|----------|---------|--------|
| 1. (5) | 2. (16) | 3. (12.50) | 4. (283) | 5. (55) | 6. (B) |
| 7. (B) | 8. (A) | 9. (D) | 10. (B) | 11. (C) | |

