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|  | **School of Engineering and Technology**  **Department of Electrical Electronics and Communication Engineering**  **Session: 2021-2022 (Even Sem)** |
| **Question Bank on Unit IV (Semiconductor Diode and Rectifiers)** | |
| **Subject: Principles of Electrical and Electronics Engineering (EEE112)** | |

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| **Q.No.** | **Questions** | | **Mapped to CO’s** | **Bloom’s Level of Learning** |
| 1. | What are p type and n type semiconductors? | | CO4, CO6 | K1 |
| 2. | Define drift current and diffusion current in a semiconductor, | | CO4, CO6 | K1 |
| 3. | Define semiconductor biasing. How does a pn junction behave under no bias condition, forward bias condition and reverse bias condition | | CO4, CO6 | K2 |
| 4. | What do you understand by doping of semiconductors? Explain its importance. | | CO4, CO6 | K2 |
| 5. | Define pn junction diode | | CO4, CO6 | K1 |
| 6. | A reverse biased PN junction has a wide depletion region. Explain? | | CO4, CO6 | K4 |
| 7. | Sketch the typical voltage-current characteristics for a forward biased PN junction and reverse biased PN junction. Briefly explain the salient points. | | CO4, CO6 | K2 |
| 8. | Compute the current flowing through the diode under following cases, for the circuit given in the below figure.   1. if applied voltage is +5V and diode is ideal diode 2. if applied voltage is +5V and diode is practical diode | | CO4, CO6 | K4 |
| 9. | | Explain with the help of a neat diagram the working of half wave rectifier | CO4, CO6 | K4 |
| 10. | | If *v*i*=5sinwt,* discuss and draw the output of the following circuit given in fig | CO4, CO6 | K4 |
| 11. | | Discuss with the help of a neat diagram the working of Centre tapped full wave rectifier | CO4, CO6 | K4 |
| 12. | | Discuss with the help of a neat diagram the working of full wave bridge rectifier. Also list its advantages over Centre tapped full wave rectifier | CO4, CO6 | K4 |
| 13. | | What are the disadvantages of half wave bridge rectifier | CO4, CO6 | K1 |
| 14. | | Discuss and draw the output of the following circuit given in figure. If the peak to peak value of the applied voltage is 10 V. Based on the output identify the circuit. | CO4, CO6 | K4 |