

## Question Bank (K - Scheme)



**Unit Test-I**

**Semester- 2**

Program: **Basic Electronics (BEL-312314)**

Course: **EJ**

**K-Scheme Question Bank**

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### **CHAPTER-1 (Applications of Diodes) -14 Marks**

**(2Marks)**

1. State materials used for LED's to emit different color light.
2. Sketch reverse characteristics of zener diode with proper labeling.
3. State cut in voltage value of diode for silicon and germanium.
4. Draw symbol of photodiode and zener diode.
5. State the need for a filter.
6. Define rectifier and filter.
7. Define i) PIV ii) Ripple factor

**(4 Marks)**

8. Describe experimental set-up for operation of P-N junction diode in forward bias. Draw its characteristics.
9. Describe V-I characteristics of zener diode.
10. Show constructional details of LED. Give any two applications of LED.
11. Compare Avalanche and Zener breakdown.
12. Draw and Explain half wave rectifier, draw its input and output waveforms.
13. State the values of following parameters for half wave and full wave rectifiers :
  - (i) Number of diodes used in circuit.
  - (ii) Rectification efficiency ( $\eta$ )
  - (iii) Transfer Utilization Factor (TUF)
  - (iv) Ripple factor

14. Draw circuit diagram and input and output waveforms of Centre tapped full wave rectifier connected with  $\pi$  filter.

### **CHAPTER-2(Bipolar Junction Transistor) -14 Marks**

**(2-Marks)**

- 15. Draw symbol of NPN transistor and PNP transistor.
- 16. Give applications to BJT.
- 17. Give types of biasing methods.

**(4-Marks)**

- 18. Explain the operation of NPN transistors in the active region.
- 19. Draw the input and output characteristics of CE configuration with proper labeling of various regions.
- 20. Give relation between alpha, beta and gamma.
- 21. Comparison between CB, CE and CC configurations.
- 22. Draw and explain fixed bias circuits.

### **CHAPTER-3(BJT Amplifiers) - 16 Marks**

**(2-Marks)**

- 23. Classify amplifiers.
- 24. Define Current gain and Voltage gain.

**(4-Marks)**

- 25. Describe working of single stage amplifiers with input output waveforms.

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