**BHARATI VIDYAPEETH INSTITUTE OF TECHNOLOGY**

**Question Bank (I-Scheme)**

**Name of subject: Basic Electronics Unit Test :I**

**Subject code: 22216 Course : EJ**

 **Semester: II**

**CHAPTER-1(Semiconductor Diodes)**

1. **Marks)**
2. State materials used for LED's to emit different colour light.
3. Sketch reverse characteristics of zener diode with proper labelling.
4. State cut in voltage value of diode for silicon and germanium.
5. Draw symbol of photodiode and zener diode.

 **(4 Marks)**

1. Describe experimental set-up for operation of P-N junction diode in forward bias. Draw its characteristics.
2. Describe V-I characteristics of zener diode.
3. Show constructional details of LED. Give any two applications of LED.
4. Compare Avalanche and zener breakdown.

**CHAPTER-2(Application of Diodes)**

 **(2 Marks)**

1. State the need of filter.
2. Define rectifier and filter.
3. Define i) PIV ii) Ripple factor

 **(4 Marks)**

1. Describe circuit diagram of bridge rectifier, draw its input and output waveforms.
2. Explain the working of positive clamper with proper circuit diagram and draw the waveforms at input & output of clamper.
3. State the values of following parameters for half wave and full wave rectifiers :
4. Number of diode used in circuit. (ii) Rectification efficiency (Ƞ) (iii) Transfer Utilization Factor (TUF) (iv) Ripple factor
5. Draw circuit diagram and input and output waveforms of full wave rectifier connected with π filter.
6. Differentiate clipper and clamper with following points: (i) Components used in circuit. (ii) Function (iii) Application (iv) Configuration

**CHAPTER-3(Bipolar Junction Transistor)**

**(2 Marks)**

1. Draw symbol of NPN transistor and PNP transistor.
2. Give applications of BJT

1. **Marks)**
2. Explain the operation of NPN transistor in the active region.
3. Draw the input and output characteristics of CE configuration with proper labeling of various regions.

 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*