

# **BHARATI VIDYAPEETH INSTITUTE OF TECHNOLOGY**

## **Question Bank (K - Scheme)**

**Name of subject: Basic Electronics**

**Unit Test : II**

**Subject code: 312314**

**Course : EJ**

**Semester: II**

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

### **(2 Marks)**

1. List any four applications of RC coupled amplifier.
2. State the need of multistage amplifier.
3. Compare small signal amplifier with power amplifier (any four)
4. Define : (i) Amplification (ii) Bandwidth
5. State advantages and disadvantages of transformer coupled amplifier.

### **(4 Marks)**

6. Compare RC coupled, transformer coupled, direct coupled amplifier.
7. Explain working of transformer coupled amplifier with neat circuit diagram.
8. Draw circuit diagram of RC coupled transistor two stage amplifier and explain its working with its frequency response.
9. Sketch frequency response of single stage common emitter CE amplifier and label the following : (i) 3 dB lower cutoff frequency (ii) 3 dB upper cutoff frequency (iii) 3 dB bandwidth.
10. Explain the working of transistor as a switch with neat diagram.

## **CHAPTER-4 (Field Effect Transistor) - 14 Marks**

### **(2 Marks)**

11. Sketch the symbol of p-channel and n-channel Depletion type MOSFET.
12. State different methods of biasing of FET.
13. Sketch the symbol of p-channel and n-channel JFET.

## **(4 Marks)**

14. Draw and Explain N-Channel JFET.
15. Derive relation between  $\mu$ ,  $g_m$  and  $r_d$ .
16. Draw and Explain N-Channel D-MOSFET.

## **CHAPTER-5 (Regulators and Power supply) – 12 Marks**

### **(2 Marks)**

17. Define line regulation. State the formula for its regulation.
18. Define load regulation. State the formula for its regulation.
19. Define voltage regulator. State need of voltage regulator.
20. State fixed voltage regulator IC's.
21. List two application of Switch Mode Power Supply (SMPS)

### **(4 Marks)**

22. Explain basic block diagram of regulated DC power supply, draw its input and output waveforms.
23. Describe the working of zener as a voltage regulator with neat diagram.
24. Explain the working of SMPS with neat block diagram
25. Build the circuit diagram of dual voltage regulator to get +12Vdc and – 12Vdc using IC 7812 and IC 7912 along with rectifier.
26. Draw block diagram of IC 723 regulator. State the working principle of IC 723.
27. Draw pin configuration of adjustable voltage regulator IC LM 723 and state function of each Pin.

\*\*\*\*\*