ABES Engineering College, Ghaziabad

Session: 2023-24 Semester: I Course Code: BEC-101

Course Name: Fundamental of Electronics Engineering

Assignment - 4

Q1. Derive the relation of current gains between CB, CE & CC configuration. A transistor having $\alpha = 0.975$ and reverse saturation current $I_{CBO} = 10\mu A$ is operated in CE mode. If the base current is $250\mu A$. Calculate I_E and I_C.

Q2. Explain the working of NPN transistor in CE Configuration with suitable input and output characteristics and mention the regions of operation.

Q3. Explain the construction, working and characteristics of n channel DMOS.

Q4. Explain the construction, working and characteristics of n channel EMOS.

Q5. Compare FET and BJT.

Q6. Describe the input and output characteristics of CB configuration.

Q7. Mention the difference between DMOS and EMOS.

Q8. Draw the drain and transfer characteristics of P channel DMOS and EMOS.

Q9. Explain the construction, working and characteristics of n channel of JFET.

Q10. (a) Why is CE configuration preferred in amplifier circuits?

(b) Explain how JFET can be used as a VVR and a constat current source.