Thapar Institute of Engineering & Technology, Patiala

Department of Electronics and Communication Engineering
Course Code: UEC-301;   **Course Name:** Analog Electronic Circuits
B.E. (ENC) (III-Sem),
"Tutorial Sheet No. - 1"

[1]	Explain the role of diode and transistor in real-world application scenario.
[2]	Explain the meaning of each term in "*Bipolar Junction Transistor*".
[3]	Name the three terminals available in NPN and PNP BJTs and explain the role of each of those terminals.
[4]	Draw the respective circuit symbols of BJTs available as well as insert proper biasing voltages, so that each of them works properly in their active region of operation.
[5]	Explain the four regions of operation of BJT.
[6]	Mention the mathematical relationship between I_C and I_{CBO} as well as the relation between the leakage currents I_{CBO} and I_{CEO} for BJT.
[7]	Explain the applications of BJT in four different operating regions.
[8]	Make yourself understand different input and output characteristics of various BJT configurations.
[9]	Explain the concept of current gains in CE and CB BJT configurations.