Transistor Suggestion

(1) Why is a transistor so called?

(2) Explain with diagram the different current components in a transistor

(3) Define the terms

i) Emitter injection ratio

ii) Base transport factor.

Hence derive the relationship between the current gain in common emitter (CE) and CB mode (i.e. β and α).

(4) Explain early effect in a transistor

(5) Compare CE ~~and~~, CB and CC configuration

(6) Write short note on transistor as a switch.

(7) What is the need for biasing?

(8) What are the reasons for shift of Q-point?

(9) Develop the H-parameter model of a transistor. Why is it called the small signal equivalent model

(10) Derive Expression for stability factor w.r.t I_o in self bias voltage divider configuration.

(11) Find expression for voltage gain, current gain, input impedence and output impedence in terms of H-parameters.

(12) Explain physically how

(a) Collector to Base Bias

(b) Self Bias

achieve stability

(19) Explain what happens if the collector resistance in a common emitter circuit is increased indefinitely (Transistor)