

Q Compare FET and BJT.

SPD Somy (ECE)

A. - The Field Effect Transistors have several advantages over the bipolar junction transistors, some of which are:-

- i) It has a much higher input resistance, thus causing negligible loading of a voltage source connected at the input.
- ii) The FET is relatively insensitive to temperature and immune to radiation.
- iii) In particular for silicon-based devices, it is less noisy.
- iv) The main disadvantages of FET is its lower transconductance, g_m , and hence lower gain.
- v) The FET is more economical to produce than the BJT as it requires fewer fabrication steps and occupies much less chip area.
- vi) Due to its low noise and relative insensitivity to cosmic radiation, the JFET is primarily used in satellite communications operating in GHz frequency range.
- vii) It is also used as an amplifier such as in operational amplifiers and in compensators.