

Jashore University of Science and Technology
Department of Physics

Bachelor of Science with Honours in Physics
Second semester of Second year

Course no.: PHY 2207
Assignment no.: 03

Course title: Semiconductor Physics
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- 1.** Explain the characteristics and purpose of each of the following regions in a transistor: (a) emitter, (b) base and (c) collector. [5]

- 2.** In an *npn* transistor, explain why most of the emitter-injected electrons pass through the base region and on to the collector. [4]

- 3.** Why are JFETs called normally ON devices? Explain the difference between the ohmic and current-source regions of operation for a JFET. [6]

- 4.** Describe the construction and characteristics of depletion-type MOSFET. Explain why it is named so. [5]