

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

Course title: Semiconductor Physics

Assignment no.: 01

Date: October 04, 2023

Last date of submission: October 12, 2023

- 1.** Write a short note on Czochralski (CZ) method of crystal growth.
- 2.** Explain the basics of molecular beam epitaxy (MBE) with proper diagram.
- 3.** What is meant by integrated circuit (IC)? How IC's are fabricated? Discuss the advantages and disadvantages of IC.
- 4.** Write a short note on Hall effect. Discuss how the Hall effect could be used to obtain information on free charge density in a conductor. (Hint: Consider how drift velocity and current are related.)
- 5.** Explain the characteristics and purpose of each of the following regions in a transistor: (a) emitter, (b) base and (c) collector.