

# **Jashore University of Science and Technology**

**Bachelor of Science Electrical and Electronic Engineering**

**1st semester of 1st year**

**Course no.: PHY 1101**

**Course title: Physics**

**Class test no.: 01**

**Date: May 18, 2022**

**Last date of submission: May 30, 2022**

- 1.** What is photoelectric effect? Describe experimental findings of the photoelectric effect. Explain the phenomenon according to the quantum theory of light.
- 2.** Define Compton effect. Derive an expression to calculate the change in wave length of the incident photon in the Compton effect.
- 3.** Define (i) radioactivity and (ii) binding energy Write down the name of different types of radioactive decay and give their examples. The mass of  ${}^{75}_{33}\text{As}$  is 74.921 u. Calculate its binding energy per nucleon.
- 4.** What is a nuclear reactor? Discuss the functions of different essential parts of a nuclear reactor with a rough sketch.