Jashore University of Science and Technology

Bachelor of Science Electrical and Electronic Engineering
1st semester of 1st year
Session: 2022 − 2023

Course no.: PHY 1101   Course title: Physics
Assignment no.: 01   Date: November 28, 2023

Last date of submission: December 10, 2023

1. What are the thermodynamic functions? Find the differential equations of the thermodynamic functions.

2. Derive the Maxwells relations related to the thermodynamic functions H and G.

3. Define efficiency of an engine. State and prove the Carnot's theorem.

4. Write down important features of the Carnot cycle. Prove that the efficiency of a Carnot cycle is temperature dependent.

5. Define diffraction of light. What is Fresnel and Fraunhofer class of diffraction?

6. What is interference of light? Under what conditions interference of light take place?

7. Define polarization of light. Explain plane of polarization and plane of vibration.

8. How can elliptically and circularly polarized light be formed from plane polarized light?