

**2025**  
**RANI RASHMONI GREEN UNIVERSITY**  
**ENVIRONMENTAL SCIENCE**  
**SEMESTER-III**  
**SUBJECT CODE: GEST-32**  
**Full Marks: 40**  
**Time: 2 Hours**

*Candidates are required to give their answer in their own words as far as practicable.*

**Unit-1: Answer any four out of the following six questions. (2×4 = 8)**

1. Explain the meaning of the calorific value of a fuel.
2. State the concept of energy efficiency.
3. Give an account of a flat plate collector.
4. Explain the dry adiabatic lapse rate.
5. Give a brief explanation of gravity anomaly.
6. Describe the major divisions (sub-ages) of the last glacial age.

**Unit-2: Answer any four out of the following six questions. (4×4 = 16)**

7. Discuss the mechanism responsible for global warming.
8. Write a short note on the global development of solar energy.
9. Discuss the biomass substrates used in biomass energy conversion technologies. (4)
10. Describe a hydroelectric power station and its major components with the help of a neat diagram. (4)
11. Explain the concept of mixing height of the atmosphere and mention the factors affecting it. (2+2 = 4)
12. Discuss the interactive process between the lithosphere and the atmosphere. (4)

**Unit-3: Answer any two out of the following four questions. (8×2 = 16)**

13. Discuss the role of fossil fuels in economic development and analyse the environmental issues associated with their excessive use. (4+4 = 8)
14. Explain the role of algae in bio-refinery and the process involved in biodiesel production. List any four of its potential applications in an industrial setup. (6+2 = 8)
15. Briefly describe the concept of scales in meteorology. Define advective inversion with a real-world example. (6+2 = 8)
16. Write the differences between Airy and Pratt isostasy theories. (8)