

III B. Tech II Semester Supplementary Examinations, February-2022
GREEN ENGINEERING SYSTEMS
 (Common to ME, AME)

Time: 3 hours

Max. Marks: 70

- Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
 2. Answer **ALL** the question in **Part-A**
 3. Answer any **FOUR** Questions from **Part-B**
- ~~~~~

PART –A**(14 Marks)**

1. a) Write a short note on Role renewable sources for a sustainable feature. [2M]
- b) Identify the Wind Energy Regions in India. [2M]
- c) Write the major Constituents of biogas and its importance. [3M]
- d) Write disadvantages of wave energy. [2M]
- e) What are key considerations in the design of green products? [3M]
- f) Highlight the importance of energy management. [2M]

PART –B**(56 Marks)**

2. a) Explain about instrument to measure different aspects of solar radiation. [7M]
- b) Discuss the type of solar collectors in detail [7M]
3. a) Discuss the essential elements of solar distillation with a neat sketch [7M]
- b) Enumerate the Operating Characteristics of windmills [7M]
4. a) What is biomass? Discuss about its types and resources. [7M]
- b) Explain the basic ways to tap the ocean for its energy [7M]
5. a) Discuss the electrical energy efficiency methods and techniques. [7M]
- b) What is a fuel cell? Explain the working principle with a block diagram [7M]
6. a) List the benefits of green manufacturing? Explain. [7M]
- b) Explain the implementation of efficient and sustainable green production systems with examples. [7M]
7. a) Explain environmental friendly building materials. [7M]
- b) Discuss the principles of sustainable site selection and planning of buildings for maximum comfort. [7M]

