

**PARUL UNIVERSITY**  
**FACULTY OF ENGINEERING & TECHNOLOGY**  
**Diploma Engineering, Mid semester Examination-January-2023**

Semester: 4<sup>th</sup>

Subject Code: 03607344

Subject Name: Renewable Energy Technology

Date: (25/01/2023)

Time: (7.50 am to 9.20 am)

Total Marks: 40

**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. English version is considered to be Authentic.

**Q.1 Answer any six out of Ten. (2 Marks Each) (12)**

1. Describe the importance of Energy Security
2. Illustrate the Conventional and Non-Conventional Energy Resources
3. What is Solar Constant
4. Give the name of Instruments to measure solar radiation
5. What is solar radiation
6. List out the different types of Solar Energy Collectors
7. Draw the Line Diagram for Medium temperature solar thermal power plant.
8. Write down the function of Wind Wane
9. Write down the Advantages of wind farm
10. Draw the neat diagram for Horizontal Axis Wind Turbine

**Q.2 A) Explain economic benefits of Renewable energy (03)****OR**

- A) Give the classification of Energy Resources and Explain any two types. (03)
- B) Explain energy conservation and its importance (03)

**OR**

- B) Explain different Evolutionary Trends in Pollution Problems (03)
- C) Write a Short note on Flat Plate Collector System (04)

**OR**

- C) Explain Low temperature solar thermal power plant with diagram. (04)
- D) Write down the Advantages and Disadvantages of Solar PV System (04)

**Q.3 A) Define the terms: Photo Voltaic Cell, Solar module, Solar Panel, Solar Array (03)****OR**

- A) Give the Classification of wind electrical system. (03)
- B) Give the Name of different Point focusing type Solar collector and explain anyone (03)

**OR**

- B) State various Schemes for electrical generation and Explain any One (03)
- C) Give Types of Solar PV Power Generating System and Explain anyone (04)

**OR**

- C) Give the Comparison of horizontal axis wind turbine and vertical axis wind turbine (04)
- D) Write down the Advantages and Limitation of Wind Power Plant (04)

□□□□□ □□□□□□□□□□□□

□□□□□□□□□□□□ □□ □□□□□□□□□□ □□□□□□□□

□□□□□□□□ □□□□□□□□□□□□, □□□ □□□□□□□□ □□□□□□□□□□□□□□□□-2023

□□□□□□□□□□: 4<sup>□□</sup>

□□□□□□: (25/01/2023)

□□□□ □□□□: 03607344

□□□□: (□□□□□□ 7.50 □□ 9.20 □□□□)

□□□□□□□□ □□□□: □□□□□□□□□□ □□□□□□ □□□□□□□□□□

□□□ □□□□: 40

□□□.1 □□□□□□□ □□□□□ □ □□□□ □□□. (□□□□ 2 □□□) (12)

1. □□□□□ □□□□□□□□□ □□□□□□□□ □□□□□ □□□
2. □□□□□□□□ □□□ □□□-□□□□□□□□ □□□□□ □□□□□□□□□□□ □□□□□□ □□□
3. □□□□ □□□□□□□□□□ □□□ □□
4. □□□ □□□□□□□□□□□ □□□□□ □□□□□□ □□□□□□□□ □□□ □□□
5. □□□ □□□□□□□□□□□ □□□ □□
6. □□□□□ □□□□□□ □□□□□□□□ □□□□□ □□□□□□□□ □□□□ □□□□□
7. □□□□□ □□□□□□□□ □□□ □□□□□ □□□□ □□□□□□□□ □□□□ □□□□ □□□□□□□□□□
- .
8. □□□□□ □□□□□□ □□□□□ □□□
9. □□□□□ □□□□□□ □□□□□□ □□□
10. □□□□□□□□□□ □□□□□ □□□□□ □□□□□□ □□□□ □□□□ □□□□□ □□□□ □□□□

□□□.2 A) □□□□□□□□□□□ □□□□□□ □□□□□ □□□□ □□□□□□ □□□□□ (03)

- 
- A) □□□□□ □□□□□□□□□□ □□□□□□□ □□□ □□□ □□□ □□ □□□□□□ □□□□□□□□. (03)
- ) □□□□□ □□□□□□ □□□ □□□□□ □□□□□ □□□□□□ □□□□□ (03)
- 
- ) □□□□□□□□ □□□□□□□□ □□□□□ □□□□□□□□□ □□□□ □□□□□□ □□□□ (03)
- C) □□□□□ □□□□□ □□□□□□ □□□□□□ □□ □□□□□ □□□□ □□□ □□□ (04)
- 
- C) □□□□ □□□□□□□□ □□□ □□□□□ □□□□ □□□□□□□□ □□□□□□□□ □□□□ □□□□□□□. (04)
- ) □□□□ □□□□ □□□□□□□ □□□□□ □□□ □□□□□□□□ □□□ (04)

□□□.3 A) □□□□□ □□□□□□□□□□□ □□□□: □□□□ □□□□□□□□ □□□, □□□□ □□□□□□□□, □□□□ □□□□□, □□□□□ □□□ (03)

- 
- A) □□□ □□□□□□□ □□□□□□□□□ □□□□□□□ □□□□. (03)
- B) □□□□ □□□□ □□□□□ □□□□□□ □□□□□□□ □□□□ □□□□□□□□□ □□□ □□□ □□□ □□□□□□ □□□□□□ (03)
- 
- B) □□□□□□ □□□□□□ □□□□□ □□□□□ □□□□□ □□□□□ □□□ □□□ □□□□ □□□□ □□□□□□ (03)
- 
- ) □□□□ □□□□ □□□□ □□□□□□□ □□□□□□□ □□□□□□ □□□ □□□ □□□□□□ □□□□□□□ (04)
- 
- ) □□□ □□□□ □□□□□ □□□□□□ □□□ □□□□□□ □□□□□ □□□□□ □□□□□□□□□□ □□□□□□□□□□ (04)
- □□□
- ) □□□□□ □□□□ □□□□□□□□ □□□□□ □□□ □□□□□□□ □□□ (04)