

**MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE**  
**SEMESTER END THEORY EXAMINATION**

**B.Sc.(Hons.) Agriculture**

Semester	: IV (New)	Term	: Second	Academic Year	: 2022-23
Course No.	: ENGG 243	Title	: Renewable Energy and Green Technology		
Credits	: 2 (1+1)				
Day & Date	: Saturday, 08.07.2023	Time	: 09:00 to 11:00 hrs.	Total Marks	: 40

- Note :**
1. Solve ANY EIGHT questions from SECTION 'A'.
  2. All questions from SECTION 'B' are compulsory.
  3. All questions carry equal marks.
  4. Draw neat diagram wherever necessary.

**SECTION 'A'**

- Q.1 What is biomass? Give the uses of biomass.
- Q.2 Explain KVIC biogas plant with its advantages and disadvantages.
- Q.3 What is gasification? Enlist types of gasifiers and explain downdraft gasifier.
- Q.4 Explain box type solar cooker.
- Q.5 What is solar water heating? Explain direct natural circulation type solar water heater.
- Q.6 Discuss working of solar still.
- Q.7 What is solar drying? Enlist different types of solar dryer.
- Q.8 Discuss the application of solar photovoltaic system.
- Q.9 Give the uses of wind energy system.
- Q.10 Compare conventional and non-conventional energy sources.

**SECTION 'B'**

- Q.11 Define the following terms:

- 1) Anaerobic digestion
- 2) Gasification
- 3) Hydraulic retention time
- 4) Solar cell

- Q.12 Fill in the blanks:

- 1) Insulation is provided in solar devices to minimize the \_\_\_\_\_.
- 2) Wind is the result of uneven heating of the \_\_\_\_\_.
- 3) The calorific value of biogas is \_\_\_\_\_ kcal/m<sup>3</sup>.
- 4) Orientation of solar appliances are generally \_\_\_\_\_ facing.

