

MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END THEORY EXAMINATION

B.Sc.(Hons.) Agriculture

Semester	: IV (New)	Term	: Second	Academic Year	: 2021-22
Course No.	: ENGG 243	Title	: Renewable Energy and Green Technology		
Credits	: 2 (1+1)				
Day & Date	: Friday, 16.09.2022	Time	: 14:00 to 16:00 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 Classify the energy sources based on commercial and non-commercial value.
- Q.2 Define biomass. Write the applications of biomass.
- Q.3 Explain the conventional dry mill ethanol production process.
- Q.4 Explain the factors affecting the biogas generation in biogas digester.
- Q.5 Explain the 'Pragati biogas plant' with a neat sketch.
- Q.6 Explain co-current fixed bed (down draft) gasifier with a neat sketch.
- Q.7 Explain the mixed mode type solar dryer with a neat sketch.
- Q.8 Enlist the different types of solar collector. Explain liquid flat plate collector.
- Q.9 Explain construction and working of box type solar cooker.
- Q.10 Enlist the different renewable sources. Write the applications of wind energy.

SECTION 'B'

Q.11 Fill in the blanks:

- 1) B.O.T. stands for_____.
- 2)The height of the waterfall and the quantity of flowing water affect the performance of _____.
- 3) _____ can be produced from biomass material containing sugar, starches or cellulose.
- 4) A _____ is a device that produces electricity through a chemical reaction between a source fuel and an oxidant.

Q.12 Define the following terms:

- 1) Ocean Thermal Energy Conversion
- 2) Tidal energy
- 3) Geothermal energy
- 4) Solar pond

