

Roll No.

Total No. of Pages : 02

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B.Tech. (CSE./EEE/EE/ECE/FT/IT/ME/ECE) (Sem.-7)

**RENEWABLE ENERGY SOURCES**

Subject Code : OEE-104-18

M.Code : 90586

Date of Examination : 15-07-22

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTIONS TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

**SECTION-A**

**1. Write briefly :**

- a. What prevents us from using more Renewable Energy Sources?
- b. Define the power coefficient of a wind turbine. What usually is the maximum value of this parameter?
- c. What are the various losses occurring in the fuel cell?
- d. What do you understand by Solar thermal Energy?
- e. Define altitude angle and zenith angle.
- f. Explain what is meant by tip speed ratio.
- g. What are the techniques suggested for maintaining bio-gas production?
- h. List the classifications of fuel cell.
- i. What is the use of pyranometer device?
- j. Write briefly about solar energy.

## SECTION-B

2. Give the latest Indian energy scenario with respect to total installed capacity.
3. Explain how the thermodynamic model is helpful for thermal energy with the help of a suitable diagram.
4. Discuss two types of focusing type concentrating collector with the help of suitable diagrams.
5. State the basic principle of tidal power and explain the components of tidal power plant.
6. What is a community biogas plant? Explain the problems encountered in it.

## SECTION-C

7. Describe with a neat sketch the working of a Wind Energy Conversion System (WECS) with main components. Discuss the advantages and disadvantages of Wind Energy Conversion System.
8. What is meant by anaerobic digestion? Explain the working and factors that affect bio digestion?
9. Explain the principle of solar photovoltaic power generation. Describe the layout and working of a continuous solar cooling system.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**