Roll No. | | | | | | | | | | | | **Total No. of Pages : 02**

Total No. of Questions : 09

B.Sc. (ES) (Sem.–3)

RENEWABLE AND NON-RENEWABLE ENERGY RESOURCES

Subject Code : BSEN-301-20

M.Code : 90358

Date of Examination : 21-12-2022

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 are energy resources? How are they classified?

(b) On what factors the source of energy that we choose depends on?

(c) Explain the process of liquid fuel synthesis from coal.

(d) How does sun tracking helps in energy collection by a flat plate solar collector?

(e) What is obtained from the distillation of coal tar?

(f) What are the environment impacts of geothermal energy?

(g) What are the advantages of wind energy conversion system?

(h) Why do fossil fuels cause global warming?

(i) What is waste recycling plant?

(j) What are the advantages and disadvantages of ocean thermal energy conversion systems?

SECTION-B

2. What is the status of non-conventional energy sources in India, and what is their future prospect?

3. Explain the considerations for storage and handling of liquid fuels.

4. Explain the properties of solar material and design of solar cell with a neat sketch.

5. What is wind energy? What are the most favorable sites for installing of wind turbines?

6. List and explain the main constituents of Biomass materials.

SECTION-C

7. (a) Discuss the process of deriving energy from Nuclear fuels and also explain its environmental concerns.

   (b) List and explain the factors that affect the performance of Flat plate collectors.

8. (a) What is geothermal energy? How geothermal energy can be utilized for electric power generation?

   (b) Sketch and explain the different operational characteristics of Wind turbine.

9. (a) Explain the production of producer gas from biomass.

   (b) Explain how tides are formed and how it can be converted into Tidal Energy?

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.