Roll No. | | | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 18

B.Tech (EE) PT (Sem.–9)

NON-CONVENTIONAL ENERGY AND AUDITING

Subject Code : BTEE-803

M.Code : 75644

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

Answer briefly :

1. What do you mean by conversion efficiency? Explain.
2. What is the significance of non-conventional energy sources? Explain.
3. What do you mean by solar constant? Explain
4. Explain the seeback effect.
5. Discuss photovoltaic effect.
6. List the advantages of wind energy.
7. What are the problems associated with the operation of fuel cells? Discuss in brief.
8. List the various features for the efficient practical realization of an MHD system.
9. What is figure of merit? Discuss.
10. What is Bio-mass energy? Explain.

SECTION-B

11. Explain in detail the basic scheme and application of direct energy conversion.

12. The MHD generator has following parameters.

    Plant area = $0.20m^2$; distance between plates = 0.4m; Flux density = $2Wb/m^2$; average gas velocity = 1000m/s; gas conductivity 10 mho/m Calculate the open circuit voltage and maximum power output.

13. Discuss the application and economic aspects of thermos-electric generators.

14. What are the main components of a flat-plate solar collector? Explain the function of each in detail.

15. Discuss the principle of a fuel cell. Write down its advantage and disadvantages. Also discuss the various applications of fuel cells.

SECTION-C

16. Discuss the principles of MHD generation. Explain (in detail) the different types of MHD generator.

17. Write notes on :

    a) Solar energy in India

    b) Thermos-electric generators

18. Explain the following :

    a) Geothermal system

    b) Construction and operational characteristics of fuel cells

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.