862 Register No.: [ ]

April 2019

Time – Three hours
(Maximum Marks: 75)

[N.B: (1) Q.No. 8 in PART – A and Q.No. 16 in PART – B are compulsory.. Answer any FOUR questions from the remaining in each PART – A and PART – B

(2) Answer division (a) or division (b) of each question in PART – C.

(3) Each question carries 2 marks in PART – A, 3 marks in Part – B and 10 marks in PART – C.]

PART – A

1. Define primary energy.
2. Name four applications of solar energy.
3. What is a photovoltaic cell?
4. What is meant by wave machine?
5. Name the different gasifiers.
6. What is biomass?
7. Define energy audit.
8. What is wind data?

PART – B

9. Write a note on consumption trend of primary energy resources.
10. Write the disadvantages of wind energy conversion system.
11. Write a note on solar green house.
12. How will you select a solar collector for various applications?
13. Draw the open cycle ocean thermal energy conversion system.
14. Write four ways to conserve energy in refrigeration and air conditioning system.
15. Explain the term energy cost.
16. Draw the flow diagram for preparation of ethanol from sugarcane.

[Turn over.....

PART – C

17. (a) (i) Write a note on energy consumption and standard of living.
(ii) Write a note on energy for sustainable development.

(Or)

(b) List out the various factors you will consider in selection of a site for wind energy.

18. (a) List the methods to measure solar radiation and explain sunshine recorder with neat sketch.

(Or)

(b) Explain solar refrigeration system with neat sketch.

19. (a) List the applications of solar photovoltaic cells and explain the solar PV water pumping system.

(Or)

(b) With a neat sketch explain the principle and operation of a tidal power plant.

20. (a) Explain the down draft biogasifier with a neat sketch.

(Or)

(b) Explain the floating drum type biogas plant with a neat sketch.

21. (a) (i) Explain the different types of energy audit.
(ii) Write any four benefits of energy audit.

(Or)

(b) Explain in detail the waste heat recovery systems.

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