E 5873 (Pages : 2) Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, MARCH 2017

Sixth Semester

Choice Based Course—RENEWABLE ENERGY TECHNOLOGY

(For Model I and Model II B.Sc. Physics)

[2013 Admission onwards]

Time : Three Hours Maximum Marks : 80

Part A

Answer **all** *questions, each carries* 1 *mark.*

1. State the salient features of renewable energy sources.
2. What is a flat plate collector ?
3. Explain solar photovoltaic system.
4. What is geothermal energy ?
5. Differentiate between geothermal energy and thermal energy.
6. What are the advantages of a community biogas plant ?
7. Explain the basic principle of tidal power.
8. What is a fuel cell ?
9. List the applications of fuel cells.
10. What is hydrogen energy ?

(10 × 1 = 10)

Part B

Answer **eight** *questions, each carries* 2 *marks.*

11. What are the non-renewable sources of energy ? Explain.
12. What is solar heating ?
13. Discuss the structure of concentrating collector.
14. Explain the basic ideas of wind energy conversion.
15. What are hot dry rock resources ?
16. Explain biogas generation.
17. What is a closed cycle OTEC system ?

Turn over

18. What are the advantages of tidal power generation ?
19. Give the significance of hydrogen energy.
20. State the advantages of tidal energy.
21. How wave energy is generated ?
22. List the applications of fuel cell.

(8 × 2 = 16)

Part C

Answer any **six** *questions each carries* 4 *marks.*

23. Discuss the flat plate collector method for solar radiations.
24. Explain solar heating for buildings.
25. Bring out the place of solar photovoltaics in energy supply.
26. Discuss the salient features of the site for wind energy.
27. Give an account on the geothermal exploration.
28. Discuss any one method for obtaining energy from biomass.
29. Discuss the prospectus of community biogas plant in India.
30. Describe the single cycle system for tidal energy.
31. Discuss hydrogen as an alternate fuel for motor vehicles.

(6 × 4 = 24)

Part D

Answer any **two** *questions, each carries* 15 *marks.*

32. Discuss the geometry of solar radiations and its measurements.
33. Describe any one type of wind machine and its performance analysis.
34. Bring out the most popular biogas generation technology and its utilisation in India.
35. Discuss the prospectus of OTEC in India. Give your suggestions.

(2 × 15 = 30)