E 1158 (Pages : 2) Reg. No. 11 00 145

Name ANOOP. K. N

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, MARCH 2018

Sixth Semester

Choice Based Course—RENEWABLE ENERGY TECHNOLOGY

[Common for Model I B.Sc. Physics and Model II B.Sc. Physics]

(2013 Admission onwards)

Time : Three Hours Maximum Marks : 80

Part A

Answer **all** *questions*

Each question carries 1 *mark.*

1. Explain solar photovoltaic system.
2. List the options adopted for enhancing the efficiency of solar collectors.
3. State different types of solar cell.
4. Which factors affect the nature of wind close to the surface of the earth ?
5. List the advantages of tidal power plant.
6. What is geothermal power ?
7. Differentiate between tide and wave.
8. What are the advantages of a community biogas plant ?
9. What are the main components of fuel cell ?
10. What are the disadvantages of wind power ?

(10 × 1 = 10)

Part B

Answer any **eight** *questions.*

Each question carries 2 *marks.*

11. What is diffuse radiation ?
12. What are the components of solar water heater ?
13. What are the different applications of solar PV system in rural area ?
14. How will you extract energy from tidal waves ?
15. Mention any *two* environmental issues of fuel cells.

Turn over

16. List any *two* drawbacks of bioenergy.
17. What are the disadvantages of wind power ?
18. Classify the geothermal sources.
19. What are the constituents of biogas ?
20. List some applications of fuel cells.
21. List the various wave energy conversion devices.
22. Write the significance of hydrogen energy.

(8 × 2 = 16)

Part C

Answer any **six** *questions.*
Each question carries 4 *marks.*

23. Describe the flat plate collectors with the help of neat sketch.
24. Why orientation is needed in concentrating type collectors ?
25. Explain the different characteristics of PV system.
26. What do you mean by tidal and wave energy. Explain in detail.
27. What are the advantages and disadvantages of hydrogen energy ?
28. Write the merits and demerits of floating drum plant and fixed dome type plant used in Biogas production.
29. Explain the method of obtaining energy from biomass.
30. State the essential features of a probable site for a wind farm.
31. Discuss hydrogen as an alternate fuel for motor vehicles.

(6 × 4 = 24)

Part D

Answer any **two** *questions.*
*Each question carries*15 *marks.*

32. Discuss the geometry of solar radiations and its measurements.
33. Discuss the various ways of geothermal power generation.
34. With the help of schematic diagram explain technique of solar heating and cooling.
35. What are the main types of OTEC power plants ? Describe their working in brief.

(2 × 15 = 30)