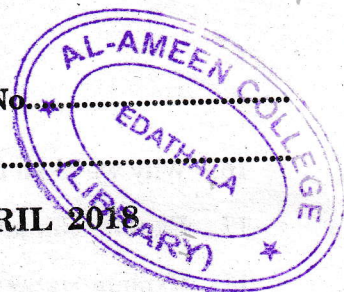


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UNDERGRADUATE (C.B.C.S.S.) EXAMINATION, APRIL 2018

Fifth Semester

Open Course—ENERGY AND ENVIRONMENTAL STUDIES

[Offered by the BOS in Physics]

(2013 Admission onwards)

Time : Three Hours

Maximum Marks : 80

Part A

Answer all questions briefly.

Each question carries 1 mark.

1. List any *two* nonrenewable energy sources.
2. State the merits of natural gas.
3. What is geothermal energy ?
4. What are the disadvantages of fusion energy ?
5. What is meant by solar desalination ?
6. State the principle of solar cell.
7. What are secondary pollutants ?
8. Explain marine pollution.
9. What is meant by source reduction ?
10. State the features of biogas.

(10 × 1 = 10)

Part B

Answer any eight questions.

Each question carries 2 marks.

11. State the advantages of hydro energy.
12. How we can use biomass as a source of energy ?
13. Explain the working of a solar dryer.
14. What are solar green houses ? Explain.
15. Give the structure of an optical concentrator ?

Turn over

16. Why we have to preserve environment ?
17. Explain Climatic effects on environment.
18. Explain water pollution.
19. What are the disadvantages of chemical waste disposal method ?
20. Explain waste minimization technique.
21. What are the characteristics of municipal solid wastes ?
22. Give the biological method of waste treatment.

(8 × 2 = 16)

Part C

Answer any six questions.

Each question carries 4 marks.

23. Comment on the storage of intermittently generated renewable energy.
24. Discuss flat plate as a high efficient and low cost solar collector.
25. Explain the spectral distribution and the relevant laws of solar radiation.
26. Briefly explain global warming. Suggest precautionary measures.
27. How we can reduce ground water pollution ? Explain in detail.
28. Briefly explain the noise pollution in educational institution areas and suggest remedies.
29. Discuss on the environmental laws and acts in India.
30. Explain the chemical method for waste treatment and disposal.
31. Briefly explain management of solid wastes in Corporation areas.

(6 × 4 = 24)

Part D

Answer any two questions.

Each question carries 15 marks.

32. Explain the basic principle of solar water heating and describe any one type of solar water heater. Bring out solar heating of buildings also.
33. Describe the water pollution and soil pollution factors which trigger the environmental pollution.
34. Discuss the waste management in municipalities in Kerala and suggest modifications.
35. Discuss the principle, construction and working of moving dome type biogas plant.

(2 × 15 = 30)