

Reg. No.....Name.....

B.SC. DEGREE END SEMESTER EXAMINATION OCTOBER 2016
SEMESTER - 5: PHYSICS (OPEN COURSE)

COURSE: U50CPHY1 -: ENERGY AND ENVIRONMENTAL STUDIES

Time: Three Hours

Max. Marks: 75

PART A (Very short answer questions)

(Answer **all** questions) Each question carries 1 Mark

1. What is the major renewable source used in India?
2. What is the energy production mechanism in sun?
3. Give two examples of renewable sources of energy.
4. What is the source of geothermal energy?
5. What are the main components of the solar radiation reaching the surface of earth?
6. Give two advantages of a solar cooker.
7. What do you mean by smog?
8. Give two examples of primary pollutants.
9. Define the term reclamation.
10. What do you mean by environmental impact assessment?

(1 x 10 = 10)

PART B (Short answer)

(Answer **any eight** questions) Each question carries 2 Marks

11. List four advantages of renewable energy sources.
12. What are the main constituents of petroleum?
13. Write any two parameters to be considered while selecting a wind turbine site?
14. What is the working principle of a solar cell?
15. What are the main components of an optical concentrator?
16. What is acid rain?
17. What is the cause of ground water pollution?
18. What is the purpose of environmental protection act?
19. Differentiate the terms incineration and pyrolysis in the context of waste management.
20. Explain the term waste management

(2 x 8 = 16)

PART C (Problem/Derivations)

(Answer **any five** questions) Each question carries 5 Marks

21. Discuss the working principle of a hydroelectric power system.
22. Briefly explain the different energy storage systems.
23. Explain the working of a solar distillation system using suitable schematic.
24. Using a schematic, explain the working principle of a direct solar dryer.

25. Discuss the various types of gaseous pollutants.
26. Explain the greenhouse effect.
27. Discuss any four types of biomedical wastes.

(5 x 5 = 25)

PART D (Long answer questions)

(Answer **any two** questions) Each question carries 12 Marks

28. Discuss the working principle of the production of (a) wind energy, (b) fusion energy and (c) wave energy.
29. What are the essential parts of a flat plate collector? Discuss the working principle of a solar water heater.
30. Discuss the causes of water pollution. List few effects of water pollution.
31. Explain the various disposal methods of municipal solid wastes.

(12 x 2 = 24)
