

B. A./B. Sc./B. COM. DEGREE END SEMESTER EXAMINATION – OCT. 2020: JANUARY 2021**SEMESTER –5: PHYSICS (OPEN COURSE)****COURSE: 15U50CPHY1: ENERGY AND ENVIRONMENTAL STUDIES**

(Common for Regular 2018 admission and Improvement 2017/ Supplementary 2017/2016/2015 admissions)

Time: Three Hours

Max. Marks: 75

PART A (Very short answer questions)**Answer all questions, each question carries 1 Mark**

1. Give any two non-renewable sources of energy.
2. What is a renewable source of energy?
3. What do you mean by extraterrestrial radiation?
4. What is the advantage of a solar green house?
5. Explain environmental impact assessment.
6. What do you mean by global warming?
7. Detail about secondary air pollutant.
8. Write any two sources of water pollution.
9. What is the use of recycling of wastes?
10. Give two characteristics of a hazardous solid waste.

(1 x 10 = 10)

PART B (Short answer)**Answer any Eight questions Each question carries 2 Marks**

11. Mention any four disadvantages of fossil fuels.
12. What is the composition of biogas?
13. What are the major parts of a flat plate collector?
14. What are the advantages of an optical concentrator.
15. Draw the schematic of a box type solar cooker.
16. What is ecology?
17. Discuss the effect of ozone layer depletion.
18. List any four physical methods of waste water treatment.
19. Give the definition of environment as per the environment protection act.
20. List any four source reduction options for waste management.

(2 x 8 = 16)

PART C (Problem/Derivations)**Answer any Five question each question carries 5 Marks**

21. What are the resources of geothermal energy? Mention any two problems associated with geothermal power production.
22. Discuss the different methods of storing energy.
23. Explain the working principle of a salt gradient solar pond.
24. Briefly discuss any four types of air pollutants.

25. What are the adverse effects of marine pollution?
26. Give the purpose of any four types of environmental protection acts.
27. Discuss the treatment and disposal methods of biomedical wastes. (5 x 5 = 25)

PART D (Long answer questions)

Answer any Two question, each question carries 12 Marks

28. Discuss the principle of the production of (a) biomass energy, (b) tidal energy and (c) fusion energy.
29. Using suitable schematics, discuss the working principle of a direct and an indirect solar dryer.
30. Explain the artificial sources of soil pollution. Discuss briefly the impacts of soil pollution.
31. Using a suitable schematic, explain the working principle of a moving dome type biogas plant. (12 x 2 = 24)
