

Third Semester

Physics

Non Major Elective – APPLIED PHYSICS

(For those who joined in July 2021 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Which of the following is an example for primary energy source.
 - (a) solar energy
 - (b) wind energy
 - (c) coal energy
 - (d) None

7. Which of the following is not a green house _____?
 - (a) CO₂
 - (b) CH₄
 - (c) CFC
 - (d) H₂
8. Solar cooker's are
 - (a) used to heat water
 - (b) used to heat air
 - (c) used to cool water
 - (d) used to cool air
9. Geothermal energy means
 - (a) Heat energy received from earth
 - (b) Heat energy received from solar
 - (c) Heat energy received from ocean
 - (d) Heat energy received from gobar
10. "Earth day" is celebrated on
 - (a) 1st December
 - (b) 5th June
 - (c) 22nd April
 - (d) 1st January

2. The natural resource among the following which is a renewable resource is
 - (a) fossil fuel
 - (b) metallic minerals
 - (c) non-metallic minerals
 - (d) forests
3. Fossil fuel is also known as
 - (a) lubricating fuel
 - (b) liquid fuel
 - (c) solid fuel
 - (d) mineral fuel
4. The percentage of global fossil fuel reserves are found in India is
 - (a) 20%
 - (b) 17%
 - (c) 6.85%
 - (d) 4%
5. Biomass is a _____ energy source.
 - (a) renewable
 - (b) non renewable
 - (c) thermal
 - (d) none
6. Biogas mixture contain _____% of methane.
 - (a) 30 to 40
 - (b) 55 to 65
 - (c) 90 to 95
 - (d) 80 to 85

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b). Each answer should not exceed 250 words.

11. (a) Describe about conventional energy source.

Or

 (b) Write down the advantages of renewable energy source.
12. (a) Describe the types of power in fossil fuels?

Or

 (b) Write briefly statistical details in fossil fuels.
13. (a) Write a short note on biomass energy.

Or

 (b) Write any five advantages and disadvantages of biomass energy.
14. (a) Describe the main applications of a solar pond?

Or

 (b) Write the principle for a solar cell?
15. (a) State the principle of wind energy conversion.

Or

 (b) Write a note on tidal energy conversion.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)
Each answer should not exceed 600 words.

16. (a) Describe about the various forms of energy and their availability.

Or

- (b) Write an essay about renewable and conventional energy sources.

17. (a) Discuss about the various availability of energy resources.

Or

- (b) Write briefly application of fossil fuels.

18. (a) Write an essay about the generation of biomass energy.

Or

- (b) Explain about Deena Bandhu model gas plant.

19. (a) Write briefly notes for applications of solar energy.

Or

- (b) Explain in merits and limitations for a solar cooker.

20. (a) Write an essay about geo thermal energy.

Or

- (b) Describe the principle and working of OTEC system.