

(6 pages)

Reg. No. :

Code No. : 30467 E Sub. Code : CNPH 32

U.G. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2024.

Third Semester

Physics

Non-Major Elective — APPLIED PHYSICS

(For those who joined in July 2021 and 2022 only)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Energy – mass relation is
(a) $E = m^2 c^2$ (b) $E = mc^2$
(c) $E = m^3 c^2$ (d) $E = mc$
2. LPG means
(a) Liquefied Petroleum Gas
(b) Liquefied Feltier Gas
(c) Liquid Petrol Gas
(d) Liquid Petal Gas
3. The major constituents of natural gas is
(a) Methane (b) Ethane
(c) Propane (d) Ethylene
4. Coal is a
(a) Pollution (b) Pollutant
(c) Solid (d) None of the above
5. Methane is a _____ gas.
(a) clean (b) impure
(c) polluted (d) pure
6. Digestion is a _____ process.
(a) chemical (b) physical
(c) biological (d) technical
7. The first solar pond was constructed in
(a) India (b) Israel
(c) Iran (d) Iraq
8. Solar cell is a _____ diode.
(a) p-n junction (b) p-p junction
(c) n-n junction (d) None of the above

9. Wind energy is an _____ form of solar energy.
- (a) Direct (b) Indirect
(c) Reversible (d) Irreversible

10. The first wind mill was developed in
- (a) India (b) China
(c) Nepal (d) Sri Lanka

PART B — (5 × 5 = 25 marks)

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

11. (a) List the various conventional energy sources.
Describe the function of any one among them.

Or

- (b) Define : renewable energy sources. State the advantages and limitations of renewable energy sources.

12. (a) Write a short note on fossil fuels.

Or

- (b) List down the applications and limitations of fossil fuels.

Page 3 Code No. : 30467 E

13. (a) Define : Biomass energy. Classify Biomass energy. Discuss anyone method of biomass energy.

Or

- (b) Explain biogas plant.

14. (a) Write a short note on :
- (i) Solar water heater
(ii) Solar cell.

Or

- (b) Discuss solar green house.

15. (a) Discuss in detail the concept of geothermal energy.

Or

- (b) Explain the working principle of a windmill.

PART C — (5 × 8 = 40 marks)

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

16. (a) Describe the major sources of conventional energy.

Or

- (b) Describe how coal is used as sources of energy.

Page 4 Code No. : 30467 E
[P.T.O.]

17. (a) Describe how coal is processed as sources of energy.

Or

- (b) Discuss the applications, merits and demerits of fossil fuels.

18. (a) Discuss in detail aspects of Deen Bandhu Model gas plant.

Or

- (b) Explain Biomass energy. State its advantages and disadvantages.

19. (a) Define : Solar energy. Explain its importance, principle, working, applications of solar energy.

Or

- (b) Write a short note on :

- (i) Solar Crop dryers
- (ii) Solar Cookers.

20. (a) Describe the open cycle Ocean Thermal Energy Conversion (OTEC) system with its advantages.

Or

- (b) Describe the power plant used to obtain tidal energy. Explain its working in detail.