

19. (a) Explain and derive Wien's Displacement law.

Or

- (b) Write short note on conduction, convection and Radiation.

20. (a) Explain the process of pyrolysis.

Or

- (b) Discuss the different types of solar cells.

PART C — ($3 \times 10 = 30$)

Answer any THREE questions.

21. Explain the types of bonding in crystals with neat diagram.
22. Explain about Huygens-Fresnel wave propagation principle.
23. What are ultrasonic waves and discuss two methods for the production of ultrasonic waves?
24. State and explain the heat transfer mechanisms.
25. List and explain some of the solar thermal applications.

S.No. 6992

P 22 PYNME 1

(For candidates admitted from 2022–2023 onwards)

P.G. DEGREE EXAMINATION, NOVEMBER 2023.

Physics — Non Major Elective

PHYSICS FOR EVERYONE

Time : Three hours

Maximum : 75 marks

PART A — (20 marks)

Answer ALL the questions.

- I. (A) Choose the correct answer: ($5 \times 1 = 5$)
1. Which of the following molecule can form a hydrogen bond with hydrogen?
- (a) Sodium (b) Oxygen
- (c) Aluminium (d) Rubidium
2. Which one of the following has the highest energy?
- (a) Blue light (b) Red light
- (c) Green light (d) Yellow light
3. Large amplitude of sound vibrations will produce
- (a) Feeble sound (b) Shrill sound
- (c) Loud sound (d) Gruff sound

4. Elements do emit radiations on their own and this property is called

- (a) Radioactivity (b) Refraction
(c) Absorption (d) Adsorption

5. An instrument used for measuring total solar radiation is called

- (a) Hygrometer (b) Pyranometer
(c) Anemometer (d) Pyrliometer

(B) Fill in the blanks. (5 × 1 = 5)

6. In a hydrogen bond, hydrogen has a _____ charge.

7. What's the wavelength for the visible region in electromagnetic radiation?

8. Frequency is measured in _____ (unit).

9. Plank's law describes the spectrum of _____ radiations.

10. _____ materials are commonly used in solar cell.

II. Answer the following: (5 × 2 = 10)

11. Draw the structure of an atom.

12. Define diffraction.

13. What is wavelength?

14. Explain Radiation.

15. Name some Renewable energy sources.

PART B — (5 × 5 = 25)

Answer ALL the questions.

16. (a) Elaborate Bohr atom model with a neat diagram.

Or

(b) State and explain pauli's exclusion principle.

17. (a) List and explain Basic properties of light.

Or

(b) Differentiate between Refection and Refraction.

18. (a) Explain Resonance in sound waves.

Or

(b) How do ultrasonic waves are produced?