

(7 pages)

Reg. No. :

Code No. : 20614 E Sub. Code : EFPH 11

B.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2025.

First Semester

Physics

Foundation Course — INTRODUCTORY PHYSICS

(For those who joined in July 2023 onwards)

Time : Three hours

Maximum : 75 marks

PART A — ($10 \times 1 = 10$ marks)

Answer ALL questions.

Choose the correct answer :

1. Which of the following is a physical quantity that has magnitude but no direction?
- (a) Vector (b) Scalar
- (c) Frame of reference (d) None

2. Which of the following is an example of vector quantity?
- (a) Temperature (b) Velocity
- (c) Volume (d) Mass
3. In an inelastic collision, which of the following does not remain conserved?
- (a) Kinetic energy (b) Momentum
- (c) Total energy (d) None of these
4. Friction is a _____
- (a) Contact Force (b) Non contact Force
- (c) Magnetic Force (d) None
5. Common energy source in Indian village is _____
- (a) Electricity
- (b) Coal
- (c) Solar energy
- (d) Wood and Cow dung

6. An example of non-conventional energy source is _____

- (a) Coal (b) Wind
(c) Oil (d) Natural gas

7. The unit of sound is _____.

- (a) Decimal (b) Decibel
(c) Second (d) None

8. Sound travel through which medium _____

- (a) Solid (b) Liquid
(c) Gas (d) All of the above

9. Which of the following liquid has more viscosity?

- (a) Water (b) Coconut oil
(c) Caster oil (d) Kerosene

10. The unit of viscosting _____.

- (a) Nm^2 (b) Poise
(c) Kgms^{-1} (d) Kg/m

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Explain addition and subtraction of vector with an example.

Or

- (b) Define vector and scalar with an example.

12. (a) Explain the following:

- (i) Gravitational force
(ii) Electrostatic force.

Or

- (b) Define centripetal force with an example.

13. (a) Write a short note on angular momentum.

Or

- (b) Explain about inelastic collisions with an example.

14. (a) Compare sound and light waves.

Or

- (b) Write a short note on simple harmonic motion.

15. (a) List it out the real life applications of surface tension.

Or

- (b) State the properties of thermal materials.

PART C — ($5 \times 8 = 40$ marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain the standard physics constant with an example.

Or

- (b) Compare resolution vector and resultant vectors.

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17. (a) Difference between cohesive and adhesive forces.

Or

- (b) Explain the following :

(i) Centrifugal force

(ii) Friction

(iii) Tension.

18. (a) Discuss about the law of conservation of momentum.

Or

- (b) Explain the following :

(i) Forced oscillation

(ii) Free oscillation

(iii) Damped oscillation.

19. (a) Explain the stream line motion and turbulent motion with an example.

Or

- (b) Explain the following :

(i) Linear motion

(ii) Projectile motion

(iii) Circular motion.

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20. (a) Explain surface tension and viscosity with an example.

Or

- (b) List the properties of conductor and Insulator.
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