

(6 pages)

Reg. No. :

Code No. : 20367 E Sub. Code : EFPH 1

B.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 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 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. An example for vector
(a) velocity (b) distance
(c) mass (d) energy
2. The value of acceleration due to gravity is
(a) 9.8 m/s (b) 9.8 m/s²
(c) 9.8 m² (d) 9.8N/m²

3. If the distance between the two masses is doubled then the gravitational force is
(a) raised by four times
(b) increased by eight times
(c) reduced by four times
(d) halved
4. The range of nuclear force is
(a) kilometer (b) micrometer
(c) nanometer (d) fermi
5. The energy of a particle in motion is called _____ energy.
(a) potential (b) mechanical
(c) kinetic (d) vibrational
6. Which of the following is an example for renewable source of energy?
(a) petrol (b) wind
(c) kerosine (d) diesel
7. In SHM acceleration, _____ is directly proportional to
(a) displacement (b) time
(c) frequency (d) velocity

8. The damping of oscillation of simple pendulum is decrease due to
- (a) room temperature
 - (b) viscosity of air
 - (c) density of air
 - (d) all the above
9. Why does an ink filled fountain pen leak at high altitude?
- (a) increase in atmospheric pressure
 - (b) increase in temperature
 - (c) decrease in atmospheric pressure
 - (d) decrease in temperature
10. The surface tension is highest for
- (a) kerosine
 - (b) ether
 - (c) alcohol
 - (d) water

PART B — (5 × 5 = 25 marks)

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

11. (a) Define the terms scalars. Give examples.
- Or
- (b) State the value of Planck's constant. Write down its unit and dimensions.
12. (a) State and explain Coulomb's law.
- Or
- (b) Write a short note on frictional forces.
13. (a) Briefly explain the different forms of energy
- Or
- (b) Describe the different types of collisions.
14. (a) Write an account on projectile motion.
- Or
- (b) Describe the motion of artificial satellite.

15. (a) What is meant by surface tension? Give its unit and dimensions.

Or

- (b) What is a lubricant? List its uses.

PART C — (5 × 8 = 40 marks)

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

16. (a) What is meant by vector? Explain with examples.

Or

- (b) Describe units and dimensional formulae with suitable examples.

17. (a) Describe the characteristics of nuclear forces.

Or

- (b) Explain centripetal and centrifugal forces.

18. (a) State and prove law of conservation of energy.

Or

- (b) State and prove law of conservation of momentum.

19. (a) Explain simple harmonic motion.

Or

- (b) Compare the nature of light waves with sound waves.

20. (a) Define the term coefficient of viscosity. Give its unit and dimensions.

Or

- (b) Write a short note on capillary flow and diffusion.
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