Model Question Paper prepared by www.educationobserver.com

SUMMATIVE ASSESSMENT – TERM II, 2026–27

PHYSICS (English Medium)

SET 2

Standard: IX **Time: 1½ Hours**

Total Score: 40

Instructions

- The first 15 minutes is cool-off time. Use it to read the questions and plan your answers.
- This question paper has 18 questions in Sections A, B, C and D.
- Choices are given for questions 6, 9, 14, 15 and 18. Answer only one of the options.
- Take g = 10 m/s² wherever needed.

Section A

Answer all questions from 1 to 4. Each carries 1 score. **(4 × 1 = 4)**

1. Which of the following has the greatest inertia? (1)

a) A bicycle b) A car c) A loaded truck d) A scooter

2. **Statement:** The weight of an astronaut on the Moon is less than his weight on the Earth. (1)

Reason: The mass of the astronaut decreases on the Moon.

a) Both the statement and the reason are true, and the reason explains the statement.

b) Both the statement and the reason are true, but the reason does not explain the statement.

c) The statement is true, but the reason is false.

d) Both the statement and the reason are false.

3. A ray of light travels obliquely from glass into air. It will (1)

a) bend towards the normal b) bend away from the normal

c) go straight without bending d) be reflected back into glass

4. The SI unit of power is (1)

a) joule b) watt c) newton d) pascal

Section B

Answer questions 5 to 11. Questions 6 and 9 have a choice. Each carries 2 scores. **(7 × 2 = 14)**

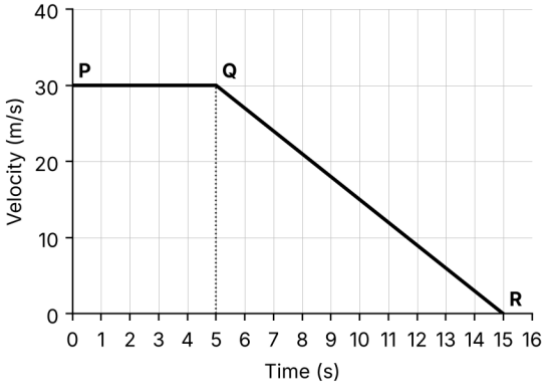
5. A force of 20 N acts on a body of mass 4 kg.

a) Find the acceleration produced. (1)

b) What will the acceleration be if the same force acts on a body of mass 8 kg? (1)

www.educationobserver.com

6 A. The velocity–time graph of a car is given below.



a) Find the distance travelled from P to Q. (1)

b) Find the retardation from Q to R. (1)

OR

6 B. A bus moving at 20 m/s is brought to rest in 4 s by applying brakes.

a) Find the retardation of the bus. (1)

b) How far does it travel before stopping? (1)

7. When a boy jumps out of a small boat onto the shore, the boat moves backward. Explain using a law of motion. (2)

8. Give reasons.

a) It is easier to float in sea water than in river water. (1)

b) Deep-sea divers wear specially designed suits. (1)

9 A. A boy of mass 60 kg climbs a staircase of height 10 m in 20 s.

a) Calculate the work done by him against gravity. (1)

b) Find his power. (1)

OR

9 B. a) Define power. (1)

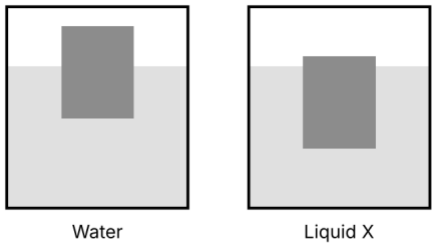
b) Express 1 kWh in joules. (1)

10. The value of g is not the same everywhere on the Earth.

a) Is the weight of an object more at the poles or at the equator? Why? (1)

b) What is the value of g at the centre of the Earth? (1)

11. The same wooden block is placed in water and in another liquid X.



Which liquid has the greater density? Justify your answer. (2)

Section C

Answer questions 12 to 17. Questions 14 and 15 have a choice. Each carries 3 scores. (6 × 3 = 18)

12. An object of mass 2 kg is dropped from a height of 20 m.

www.educationobserver.com

a) What is its potential energy at the top? (1)

b) What is its kinetic energy just before it hits the ground? (1)

c) Find its velocity just before it hits the ground. (1)

13. Explain the following on the basis of the laws of motion.

a) Passengers in a car are advised to wear seat belts. (1)

b) A rocket moves upward when hot gases rush out downward. (1)

c) A fielder pulls his hands backward while catching a fast ball. (1)

14 A. Two bodies of masses 50 kg and 60 kg are placed 1 m apart. ($G = 6.67 \times 10^{-11}$ N m^2/kg^2)

a) Calculate the gravitational force between them. (1)

b) What happens to the force if the distance between them is doubled? (1)

c) Why don't we feel this force between us and the objects around us? (1)

OR

14 B. A stone is thrown vertically upward with a velocity of 20 m/s.

a) What is its velocity at the highest point? (1)

b) How long does it take to reach the highest point? (1)

c) Find the maximum height reached. (1)

15 A. Atmospheric pressure decreases with altitude.

a) Why do fountain pens sometimes leak during an air journey? (1)

b) Name the instrument used to measure atmospheric pressure. (1)

c) What is the value of normal atmospheric pressure in pascal? (1)

OR

15 B. An object of volume 0.002 m^3 is fully immersed in water (density 1000 kg/m^3).

a) What is the volume of water displaced? (1)

b) Find the mass of the water displaced. (1)

c) Find the buoyant force acting on the object. (1)

16. The relative density of iron is 7.8 and that of mercury is 13.6.

a) What is the density of iron in kg/m^3? (1)

b) Will an iron ball float or sink in mercury? (1)

c) Justify your answer to (b). (1)

17. A motor pump lifts 500 kg of water to a tank 12 m high in one minute.

a) Calculate the work done by the pump. (1)

b) Find the power of the pump in watt. (1)

c) Express this power in kilowatt. (1)

Section D

Answer question 18 (A or B). It carries 4 scores. **(1 × 4 = 4)**

18 A. A ball of mass 2 kg moving at 6 m/s hits a ball of mass 4 kg at rest. After the collision both move together.

a) Find the total momentum before the collision. (1)

b) What is the total momentum after the collision? (1)

c) Find their common velocity after the collision. (1)

d) Which law did you use? (1)

www.educationobserver.com

OR

18 B. A car of mass 1000 kg moving at 72 km/h is brought to rest in 5 s.

a) Convert 72 km/h into m/s. (1)

b) Find its initial momentum. (1)

c) What is the change in momentum? (1)

d) Calculate the braking force. (1)

www.educationobserver.com