SET - A

E 906 - Ph

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Summative Assessment - Term I 2025 - 26

PHYSICS

Standard : IX

Time : 1½ hour
Total Score : 40

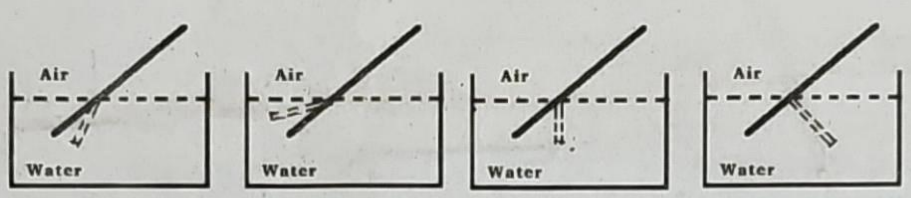
Instructions

- The first 15 minutes is cool-off time. This time is meant for reading the questions and planning your answers.
- This question paper includes 18 questions in section A,B,C,D
- Questions 10, 11, 16, 17 and 18 contain choices.
- Graph paper is included. Use the graph paper given as page 5.

Section - A

Write down the correct answer for questions 1 to 4. Each question carries 1 score. (4 x 1 = 4)

1. Observe the figures. The figures show a person looking at an iron rod kept partially immersed in water. The dotted line portion shows the apparent position of the part of the rod within water. Choose the correct figure. (1)



(a) (b) (c) (d)

2. Analyse the following statement and the reason related to the speed of light and choose the correct answer. (1)

Statement : The speed of light in water is greater than that in air

Reason : The speed of light is less in a medium of higher optical density.

a) Both the statement and the reason are true, and the reason is the correct explanation for the statement

b) Both the statement and the reason are true, and reason is not the correct explanation for the statement.

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

d) Statement is false, but reason is true.

3. Observe the traffic sign given below. (1)

i) It is a cautionary sign

ii) It is a mandatory sign

iii) It indicates no bicycles

iv) It indicates no parking

a) ii and iii are correct

b) i and iv are correct

c) i and ii are correct

d) iii and iv are correct

4. Examine the following statement. (1)

Statement: A vehicle will not move on pushing from inside.

Based on this statement, find out the correct option from the following and write it down.

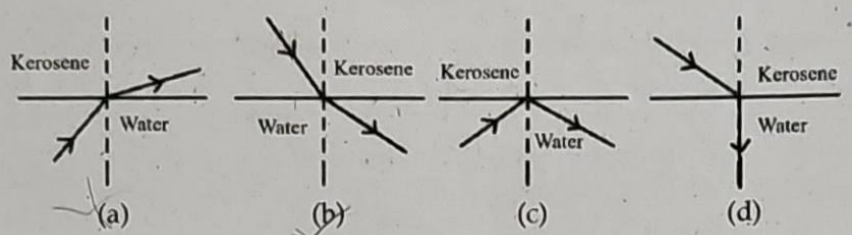
a) The statement is wrong
b) This is an internal force
c) This is an external force
d) Both a and b are correct

Section - B

Write the answers to the questions 5 to 11 in one or more sentences. Questions 10 and 11 have choices. Each question carries 2 score. **(7 x 2 = 14)**

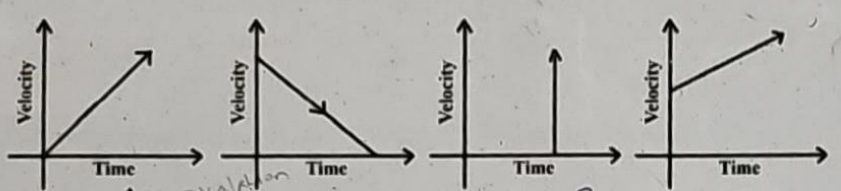
5. The refractive index of some mediums are given below. (2)

Refractive index	Medium
1.33	Water
1.44	Kerosene



Identify the correct figure and justify your answer.

6. Observe the graphs given below.



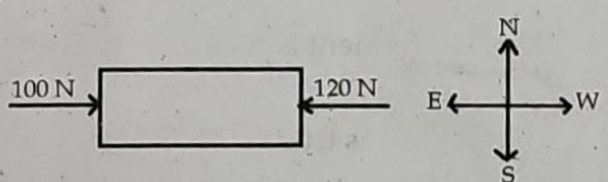
a) Which graph represents the motion of a body coming to rest? (1)

b) Which graph is never possible with respect to motion? (1)

7. Two forces acting on a body are depicted.

a) Write down the magnitude of the resultant force. In which direction does it act? (1)

b) To make the forces balanced, the force in which direction should be reduced? By how much? (1)



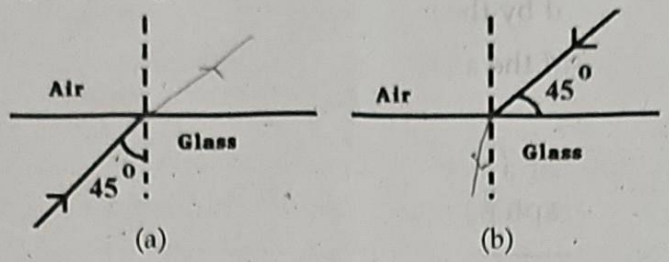
8. A body is moving with a uniform velocity. Though forces were applied on it, the body didn't get any acceleration or retardation.

a) Which type of force is applied? (1)

b) Which type of force is to be applied to bring a change in velocity. Explain. (1)

9. What is meant by inertia of motion? State the law of motion associated with this. (2)

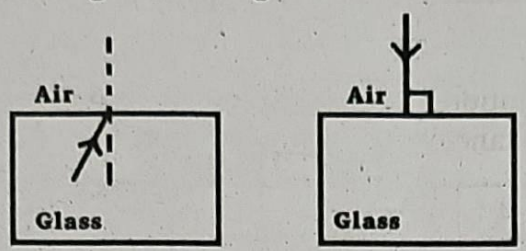
10. (A) Complete the given diagrams. (2)



(a) (b)

OR

10. (B) Complete the path of light in the figure. (2)



(a) (b)

11. (A) Correct the wrong data given in the table, and write them down. (2)

Vector quantity	Magnitude alone is mentioned	Acceleration
Scalar quantity	Direction is not mentioned	Displacement

OR

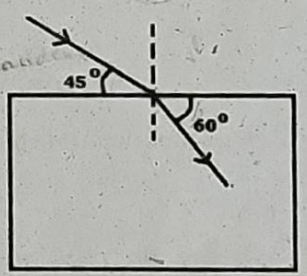
11. (B). Write down two important differences between speed and velocity. (2)

Section - C

Write the answers to questions 12 to 17. Questions 16 and 17 have choices. Each question carries 3 score. **(6 x 3 = 18)**

12. A coin kept at the bottom of a vessel appears raised on adding water into the vessel.
    a) Which is the phenomenon behind this? Define. (1)
    b) Describe how the coin appears raised. (2)

13. Observe the figure.



    a) Write down the angle of incidence and angle of refraction from the figure. (1)
    b) Write down two situations for angle of incidence to be equal to the angle of refraction. (2)

14. A ray of light undergoes deviation when it enters obliquely from air to another medium. The speed of light in air is 3×10^8 m/s and that of the second medium is 2×10^8 m/s.
    a) When the ray of light enters obliquely from air to the second medium, it (1)
    (deviates towards the normal, does not deviate, deviates away from the normal, undergoes total internal reflection)
    b) Calculate the refractive index of the second medium. (2)

15. The perimeter of a track is 400 m. An athelete can cover the full track in 50 s. If he runs for 100 s, calculate

a) What is the distance coverd by the athelete in 50 s? What is the speed in this time? (2)

b) What is the displacement of the athelete in 100 s? Calculate the velocity of the athelete in this time. (1)

16 (A) The details of the motion of a body along a straight line are given. Represent them graphically in the given graph paper. Find the displacement as well. (3)

Time (s)	0	2	4	6	8	10	12	14	16	18
Velocity (m/s)	0	10	20	30	30	30	30	20	10	0

OR

16 B) The data regarding the motion of a body is given. Represent it graphically in the given graph paper. Find the distance covered in the 17th second. (3)

Time (s)	0	2	4	6	8	10	12	14	16	18	20	22
Distance (m)	0	20	40	60	80	80	80	80	100	120	140	160

17 A) Write down your comments on the following.

a) A person walks along the side of road with dark coloured dresses when there is dim light. (1)

b) A pedestrian walks along the left side of a road, which has no foot path. (1)

c) A pedestrian walks along the right side of a road, without using the footpath. (1)

OR

17. B) Road signs can be broadly classified into three categories. Write down a short note about them. (3)

Section - D

There is a choice for question 18. Answer any one of the two questions. Each question carries 4 score. **(4 x 1 = 4)**

18. A) A bullet fired from a gun goes ahead with a velocity 80 m/s and starts penetrating a tree. It comes to rest on penetrating 8 cm.

a) Find the acceleration of the bullet within the tree. (2)

b) Calculate the time taken for penetration within the tree. (2)

OR

18. B) A stone thrown up from the top of a building 50 m went up to a height of 30 m and fell on the ground. If so, what is the

a) distance travelled by the stone? (1)

b) displacement of the stone? (1)

c) Calculate the time taken by the body to hit the ground from the maximum height reached. ($a = 10\ m/s^2$). (2)