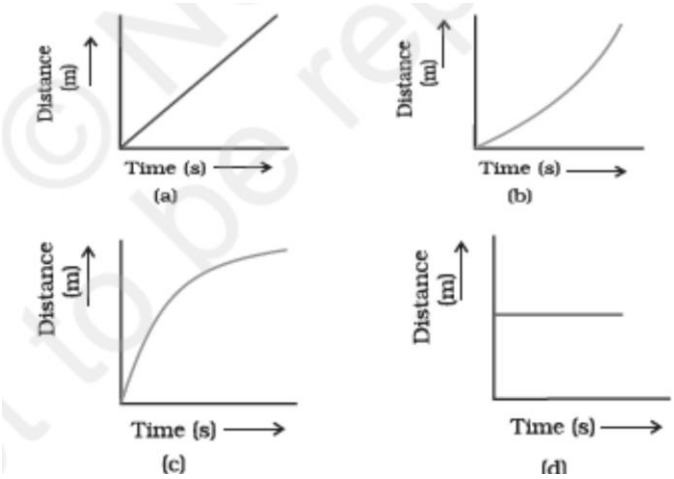
Class: VII
Annual Examination 2024-2025
Physics
Marking Scheme
Set C1 & C2

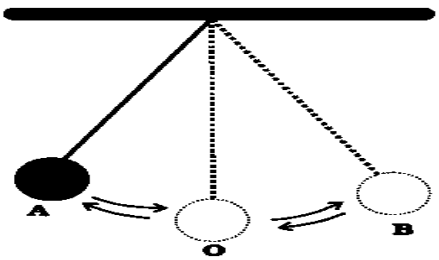
Set C1 1(i) and Set C2 1 (iv)
One litre of water at 20°C is mixed with one litre of water at 40°C. The temperature of the mixture will be
(a) 60°C
(b) more than 40°C but less than 70°C
(c) 20°C
(d) between 20°C and 40°C (1)
Ans. (d) between 20°C and 40°C ---(1)

Set C1 1(ii) and Set C2 1 (iii)
Which of the following represents a truck moving with a constant speed?



(a) graph (a)
(b) graph (b)
(c) graph (c)
(d) graph(d) (1)
Ans. graph (a) (1)

Set C1 1(iii) and Set C2 1 (ii)
The following figure shows an oscillating pendulum.



The time period of a simple pendulum is the time taken by it to travel from
(a) A to B and back to A.
(b) O to A, A to B and B to A.
(c) B to A, A to B and B to O.
(d) A to B. (1)
Ans. (a) (1)

Set C1 1(iv) and Set C2 1 (i)
If an object is placed at a distance of 0.5 m in front of a plane mirror, the distance between the object and the image formed by the mirror will be
(a) 2 m
(b) 1 m
(c) 0.5 m
(d) 0.25m (1)
Ans. (b) 1 m (1)

Q2. Assertion (A): In winters two thin woolen sweaters are warmer than a thick woolen sweater
Reason (R): Air trapped between two sweaters does not let the heat pass from our body to the surroundings thus keeping us warm.
Ans. a) --- (1)

Q3 (i) A laboratory thermometer reads temperature from 35°C to 42°C. **False --(1)**

(ii) The motion of the pedal of a bicycle in motion is circular motion . **True --(1)**

Q4. A reliable measure of the hotness of an object is its temperature. Temperature is measured by a device called thermometer. Following picture shows temperature of a body as read by the thermometer. (1)

The reading of the thermometer at the position of the pointer (arrow) is **_10.4____**° C (1)

Q5. Suhani set up an electric circuit using an electric cell, a bulb, a switch and few connecting wires. While performing an experiment in laboratory Suhani forgot to put the switch in OFF position. After a little while the wire became warm. Her teachers explained her the cause of the wire becoming hot is the heating effect of current. Further she came to know that fuse used in a circuit is based on this effect only.

a) State the property of a conducting wire which is utilized in making electric fuse.

b) Explain the function of fuse in a circuit.

c) List any two factors on which the heat produced in a wire carrying current depends upon.

OR

c) Name one more effect of current other than Heating effect and a device whose working is based on it.

Ans: a) Electric fuse wire is made up of special material which has low melting point (1)

b) There is a maximum limit on the current which can safely flow through a circuit. If by accident the current exceeds this safe limit, the wires may become overheated and may cause fire. If a proper fuse is there in the circuit, it will blow off and break the circuit. A fuse is thus a safety device which prevents damages to electrical circuits and possible fires –(1)

c) The amount of heat produced in a wire depends on its material/ length /thickness –(1)

OR

c) Magnetic Effect, electric bell –(½ + ½)

Q6. SET C1

A candle is placed in front of lenses as shown below. What is the nature of the image formed by lens (i) and lens (ii)? Also write any one point of difference between such images.

(i)

(ii)

Ans: (i) Real Image (ii) Virtual Image ---- (1/2 +1/2)

Real images are inverted and virtual are erect – (1/2 each)

Q6. SET C2

A candle is placed in front of mirrors as shown below.What is the nature of the image formed by mirror (i) and mirror (ii) ? Also write any one point of difference between such images.

(i) **(ii)**

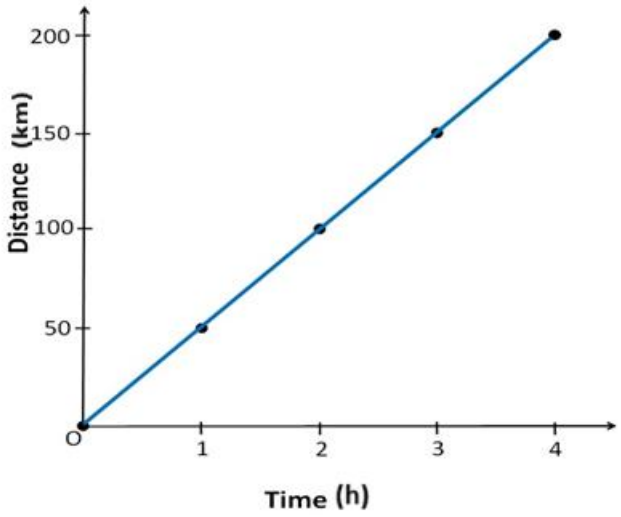
Ans: (i) Real Image (ii) Virtual Image ---- (1/2 +1/2)

Real images are inverted and virtual are erect – (1/2 each)

Q7a) A train covers 90 km in 5 hour . Calculate its speed in
(i) km/h (ii) m/s (2)
Ans. Speed = distance / time = 90 km/ 5 h = 18 km/h --- (½ + ½)
=> 18*1000/3600 = 5m/s --- (1)

OR

Q7 b) Observe the following distance – time graph and answer the questions that follow:
(i)Time taken to cover 150 km
(ii) Distance covered in 2h. (1+1)



Ans 7b) (i) 3h (ii) 100 km ---(1+1)

8a) (i) Write any two letters of English alphabet series which do not undergo lateral inversion (in capitals/ uppercase) when seen in a plane mirror.

(ii)List any four characteristics of the image of the candle placed in front of a plane mirror as shown in the figure below:

(iii)Write any one use of a concave mirror and a convex mirror.

Ans. 8 a) (i) A and O / any other -- (½+ ½)

(ii) Same size /virtual /erect / laterally inverted / distance of object from mirror is same as the distance of image from the mirror -- (any four ½ each)

(iii) Concave Mirror- used by doctors for examining eyes, ears, nose and throat. / used by dentists to see an enlarged image of the teeth/the reflectors of torches, headlights of vehicles -- (1 any one)

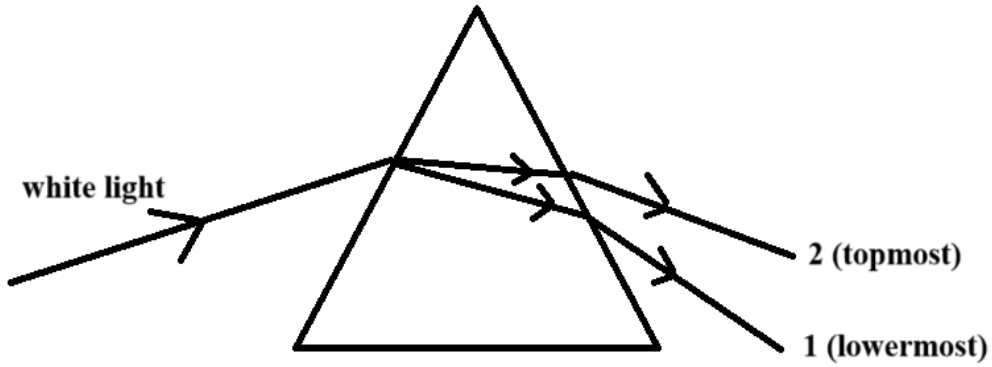
Convex Mirror – used as rear and side view mirror in all vehicles -- (1)

OR

Q 8 b) (i) Observe the diagram given below. Name the colours labelled as 1(lowermost) and 2 (topmost).

(ii) Name and define the phenomenon is shown in the diagram.

(iii) Where in nature do you observe this phenomenon? Mention one condition to observe it.



Ans. 8 b) (i) 1 – Violet ; 2 – Red -- (½+ ½)

(ii) Dispersion ; splitting of white light into its constituent 7 colors –(1+1)

(iii) Rainbow , observe it with sun behind your back. –(1+1)