

1. A's income is 10% more than B; B's income is 10% more than C. If C's income is ₹ 1500, then A's income is _____
(A) ₹ 1575 (B) ₹ 1650 (C) ₹ 1800 (D) ₹ 1815
2. A man sold an article at a profit of 25%. If he had bought for 20% less and sold for ₹ 63 less, he would have gained 30%. What is the cost price of the article ?
(A) ₹ 240 (B) ₹ 300 (C) ₹ 360 (D) ₹ 400
3. The simple interest on a given sum at a rate of 12% per annum is ₹ 500 for 5 years. What can be said about the interest on the same sum if the rate of interest is 15% per annum and sum is loaned for 4 years ?
(A) ₹ 500
(B) It cannot be calculated unless sum is given
(C) It will be less than ₹ 500
(D) It will be greater than ₹ 500
4. If 6 buses cost as much as 9 trucks, 3 trucks cost as much as 6 cars, and 2 cars cost as much as 16 motorcycles, how many buses cost as much as 48 motorcycles ?
(A) 2 (B) 3 (C) 4 (D) 5
5. A & B can do a piece of job in 8 days, B & C in 6 days and A & C in 12 days. In how many days can all of them working together complete the job ?
(A) $2\frac{1}{3}$ days (B) 6 days (C) $5\frac{1}{3}$ days (D) 9 days
6. How long will it take a train to clear a bridge 300 metres long if the length of the train is 200 metres and its speed is 40 km/hr ?
(A) 10 sec (B) 45 sec (C) 25 sec (D) 30 sec

7. A father is 30 times older than his son. However, 18 years later, he will be only thrice as old as the son. What is the father's present age ?
(A) 20 years (B) 25 years (C) 40 years (D) 60 years
8. In $\triangle ABC$, if $\angle A = 30^\circ$ and $\angle C = 55^\circ$, then the longest side is :
(A) AB (B) BC
(C) AC (D) Cannot be determined
9. The length of a rectangular field is twice its breadth. If the perimeter of the field is 300 metres, then its area is _____
(A) 50 sq.m (B) 100 sq.m (C) 500 sq.m (D) 5000 sq.m
10. If a, b, c be rational numbers such that $a > b$ and $c < b$, then _____
(A) $c > a$ (B) $c < a$ (C) $b < c$ (D) $b > a$
11. The sum of two rational numbers is -5. If one of the numbers is $-\frac{7}{5}$, then the other number is _____
(A) $-\frac{18}{5}$ (B) $-\frac{32}{5}$ (C) -7 (D) 7
12. Which of the following rational numbers, lies between $\frac{3}{8}$ and $\frac{4}{5}$?
(A) $\frac{12}{40}$ (B) $\frac{111}{160}$ (C) $\frac{6}{7}$ (D) None of these
13. Which mathematical expression is equivalent to the expression "nine less than six times the number t " ?
(A) $6t - 9$ (B) $6 - 9t$ (C) $9 - 6t$ (D) $9t - 6$

19. If $3x - \frac{1}{2x} = 6$, then the value of $9x^2 + \frac{1}{4x^2}$ is _____

- (A) 30 (B) 33 (C) 36 (D) 39

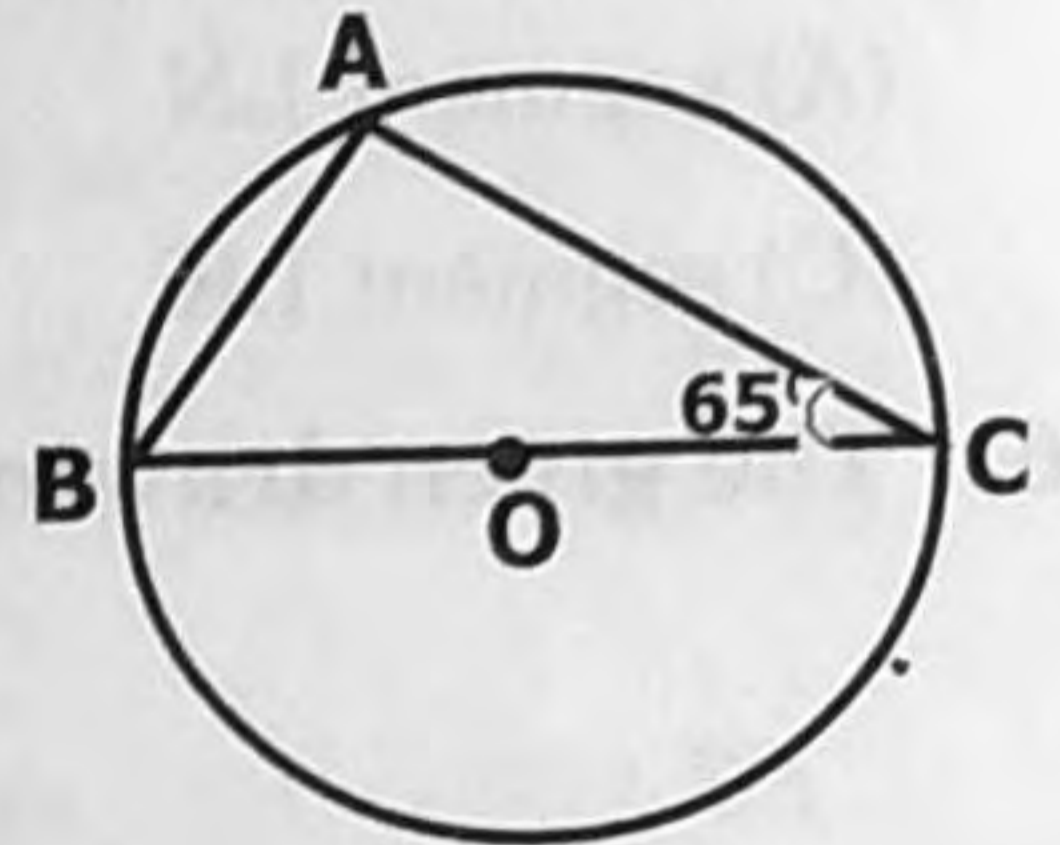
20. If 10 monkeys can eat 10 mangoes in 10 minutes, then 20 monkeys can eat 20 mangoes in _____ minutes.

- (A) 20 (B) 15 (C) 10 (D) 5

21. In the given figure, $\triangle ABC$ is inscribed in a circle

with centre "O". If $\angle ACB = 65^\circ$,

then $\angle ABC =$ _____



- (A) 25° (B) 35° (C) 65° (D) None of these

22. Which of the following always lies inside the triangle ?

- (A) Circumcentre (B) Incentre (C) Orthocentre
(D) All of the above

23. The value of $\left(\frac{32}{243}\right)^{-3/5}$ is _____

- (A) $\frac{27}{8}$ (B) $\frac{8}{27}$ (C) $\frac{16}{27}$ (D) $\frac{27}{16}$

24. The value of $\frac{9}{-17} \times \left| \frac{3}{7} - \frac{4}{5} \right|$ is _____

- (A) $\frac{117}{595}$ (B) $\frac{-117}{595}$ (C) $\frac{595}{117}$ (D) None of these

25. The value of the product

$(a-x) \times (b-x) \times (c-x) \times \dots \times (y-x) \times (z-x)$ is _____

- (A) $a + b + c + \dots + z$ (B) $ab + bc + \dots + yz$
(C) $abc - \dots - z$ (D) 0

26. Dissolving a small amount of sugar in water, increases its :
- (A) volume (B) density
(C) solubility (D) temperature

27. Study the given data

Substance	Density (g/cm^3)
Water	1.0 (at 4°C)
Mercury	13.6
Sodium	0.97

Based on the data which of the following statements is TRUE ?

- (A) Mercury will sink in water but Sodium would not.
(B) Sodium will sink in water but Mercury would not.
(C) Both Mercury and Sodium will sink.
(D) There is no relation between density and floatation.
28. When gases are heated they expand. This means that :
- (A) heat energy is converted to potential energy of the molecules.
(B) heat energy is converted to kinetic energy of the molecules.
(C) heat energy increases the number of molecules.
(D) none of the above
29. If 1500 J is required to heat a substance of 1 kg mass by 3°C . What is its specific heat capacity ?
- (A) $1500 \text{ J/kg }^\circ\text{C}$ (B) $4500 \text{ J/kg }^\circ\text{C}$
(C) $500 \text{ J/kg }^\circ\text{C}$ (D) $1000 \text{ J/kg }^\circ\text{C}$
30. Which of the following statements is NOT correct ?
- (A) The image formed by a plane mirror is laterally inverted.
(B) The image formed by a periscope is inverted.
(C) The image formed by a plane mirror is always virtual.
(D) The image formed in a pin-hole camera is inverted.

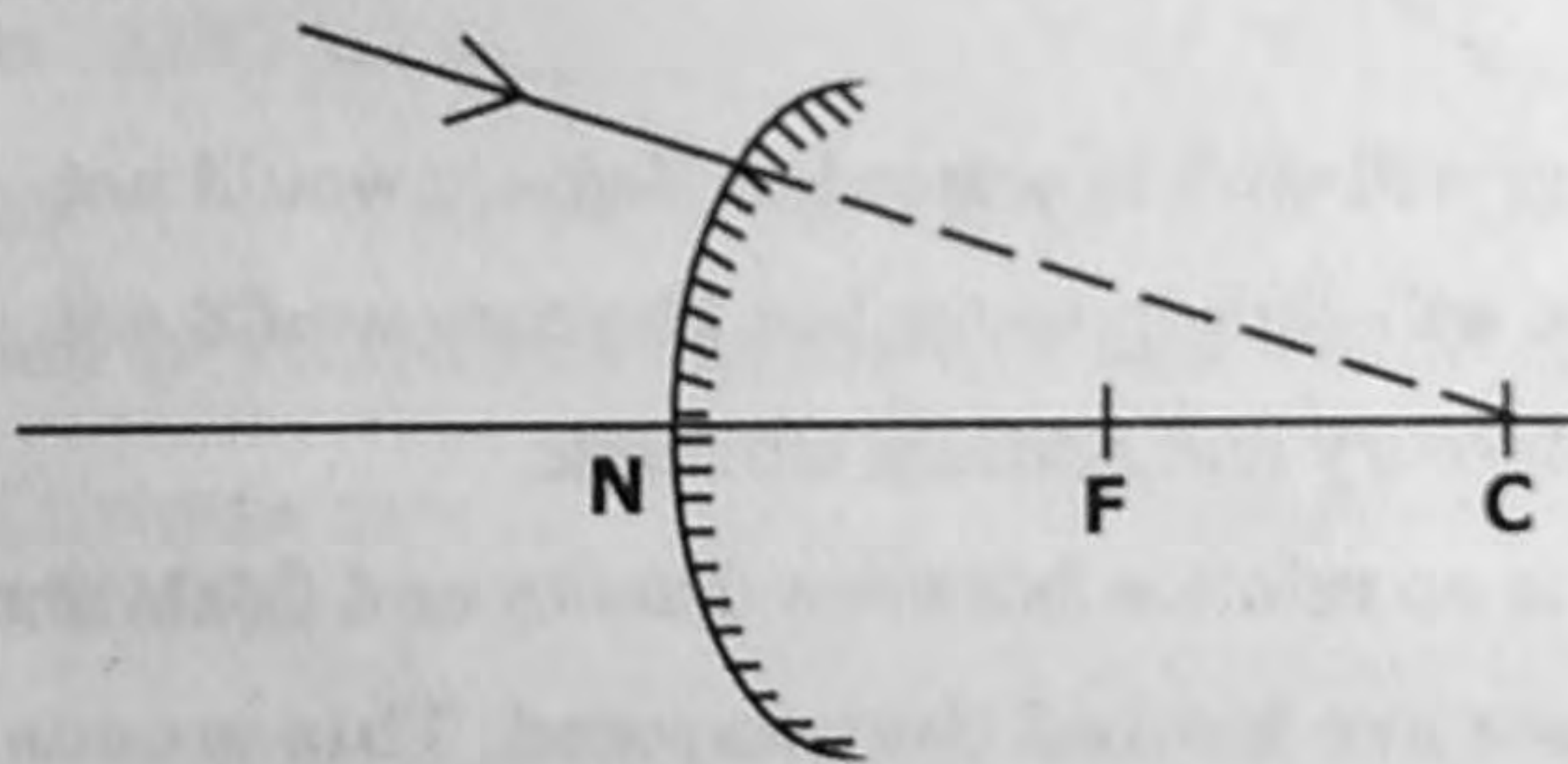
31. Which of the following mainly takes place in the transfer of heat in liquids ?

- (A) Conduction (B) Convection
(C) Radiation (D) Both B & C

32. Two thermometers, one in Celsius scale and another in Fahrenheit scale are measuring the temperature of a body being heated. If the reading in the Celsius thermometer rises from -40°C to -30°C , then the reading in the Fahrenheit thermometer will change from -40°F to ___

- (A) -30°F (B) -50°F (C) -22°F (D) -24°F

33. The following diagram shows a ray falling on a convex mirror.



After reflection the ray will appear to come from :

- (A) F (B) C
(C) between F & C (D) between N & F

34. A man standing on a cliff hears his echo from a mountain after 4 sec. What is the distance between the man and the mountain ? (Assume - speed of sound in air is 350 ms)

- (A) 350 m (B) 1400 m (C) 700 m (D) 2800 m

35. Which of the following statements is TRUE regarding an electroscope ?

- (A) It can only detect a charge.
(B) The leaves can both diverge & also move towards each other.
(C) It can measure charge.
(D) Both A & B

36. Match the following and choose the correct answer

(A) Fire alarm

i) convex mirror

(B) High pitch

ii) concave mirror

(C) Laterally inverted image

iii) high frequency

(D) Virtual & diminished image

iv) noise

v) plane mirror

vi) bimetallic strip

(A) a-vi, b-iii, c-v, d-i

(B) a-iv, b-iii, c-ii, d-v

(C) a-iii, b-iv, c-v, d-ii

(D) a-vi, b-iv, c-i, d-v

37. Usage of shoes reduces the harm of an electric shock. This happens because :

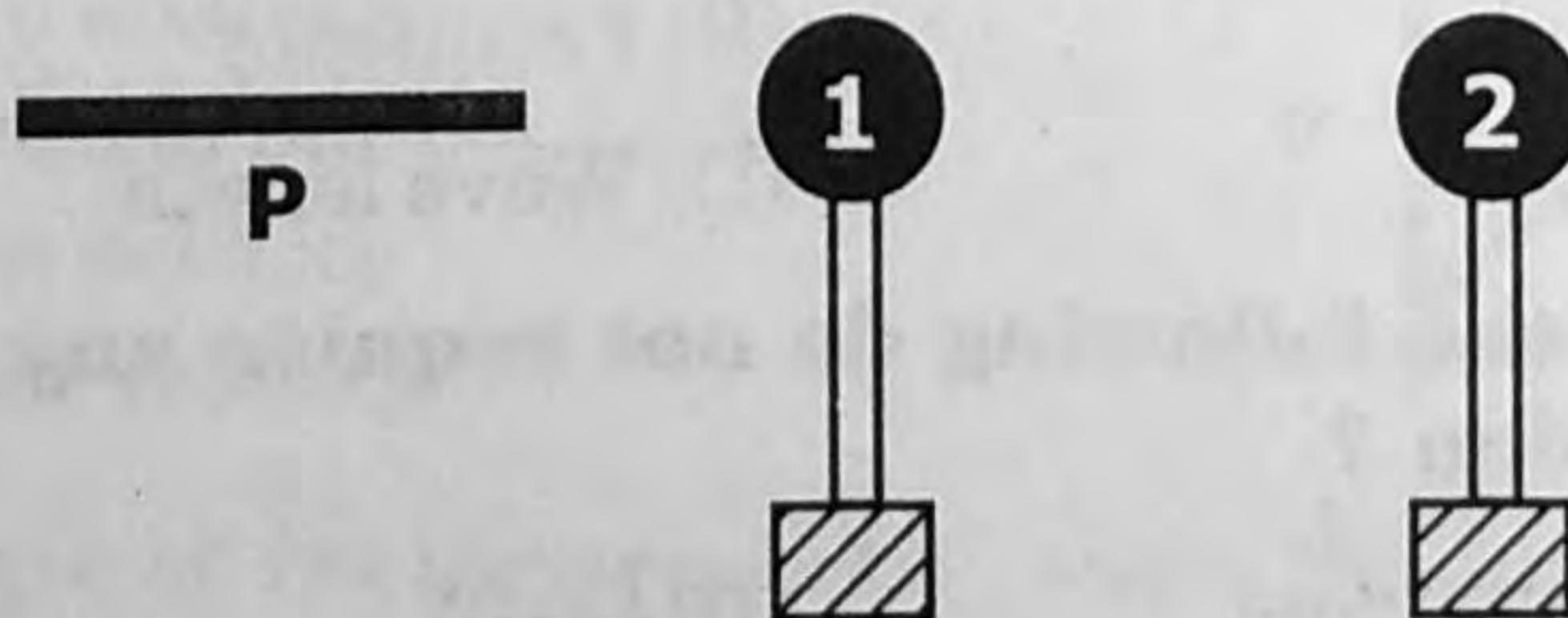
(A) shoes can absorb electric current

(B) shoes prevent earthing

(C) shoes are generally good conductors

(D) shoes produce friction

38. Study the figures of two metal spheres '1' & '2' and a rod 'P' as given below. All the three have unknown charges.



When rod 'P' is brought near the sphere '1', it was attracted towards it, while there was no effect when it was brought near sphere '2'. What could be the charge of rod 'P' ?

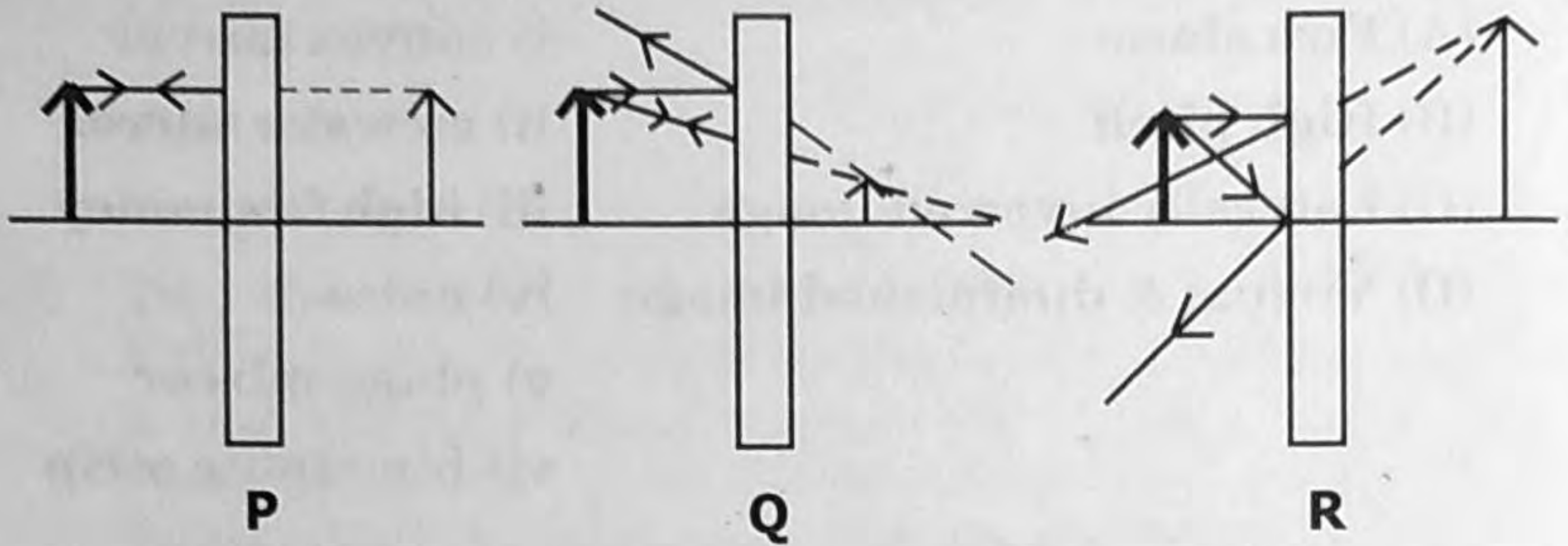
(A) Positive

(B) Negative

(C) Neutral

(D) No conclusive inference is possible

39. Study the following ray diagrams.



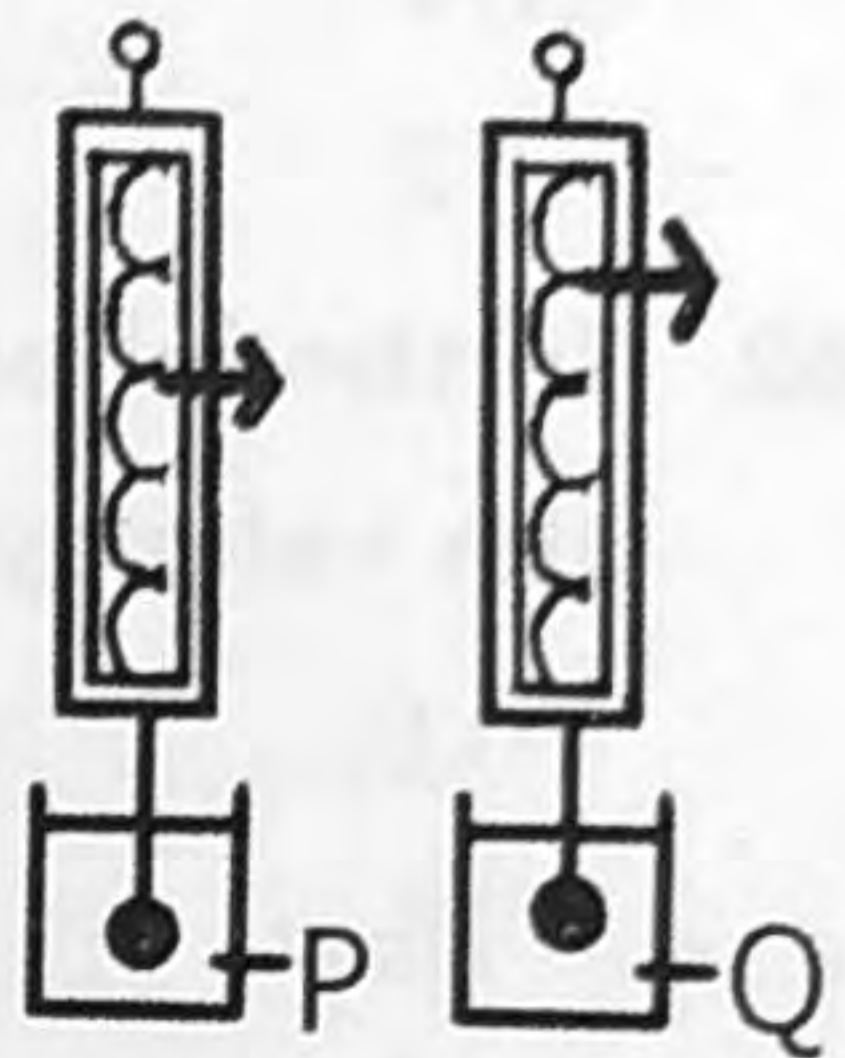
Which of the following is a correct match for the mirrors and their reflecting nature ?

- (A) P - Concave mirror
Q - Plane mirror
R - Convex mirror
- (B) P - Plane mirror
Q - Concave mirror
R - Convex mirror
- (C) P - Convex mirror
Q - Concave mirror
R - Plane mirror
- (D) P - Plane mirror
Q - Convex mirror
R - Concave mirror
40. Which of the following affects the loudness of a sound ?
- (A) Amplitude
(B) Frequency
(C) Velocity
(D) Wave length
41. Which of the following do not require any medium for transmission ?
- (A) Heat radiations
(B) Light
(C) Sound
(D) Both A & B
42. Which property of convex mirror makes them ideal to be used as rear-view mirrors ?
- (A) They form real images and cover a wide area
(B) They form virtual, erect & diminished images
(C) They form diminished & erect images and cover a wide area
(D) They form magnified & erect images and cover a small area

43. An electric heater can supply 500 kJ of heat per minute. How much time will it take to heat 10 kg of water from 35 °C to 85 °C ? (Sp. heat of water is 4200 J/kg°C)
- (A) 8.4 min (B) 3 min (C) 4.2 min (D) 12.6 min

44. A hydrometer is an instrument used to measure :
- (A) density (B) temperature
(C) volume (D) pressure

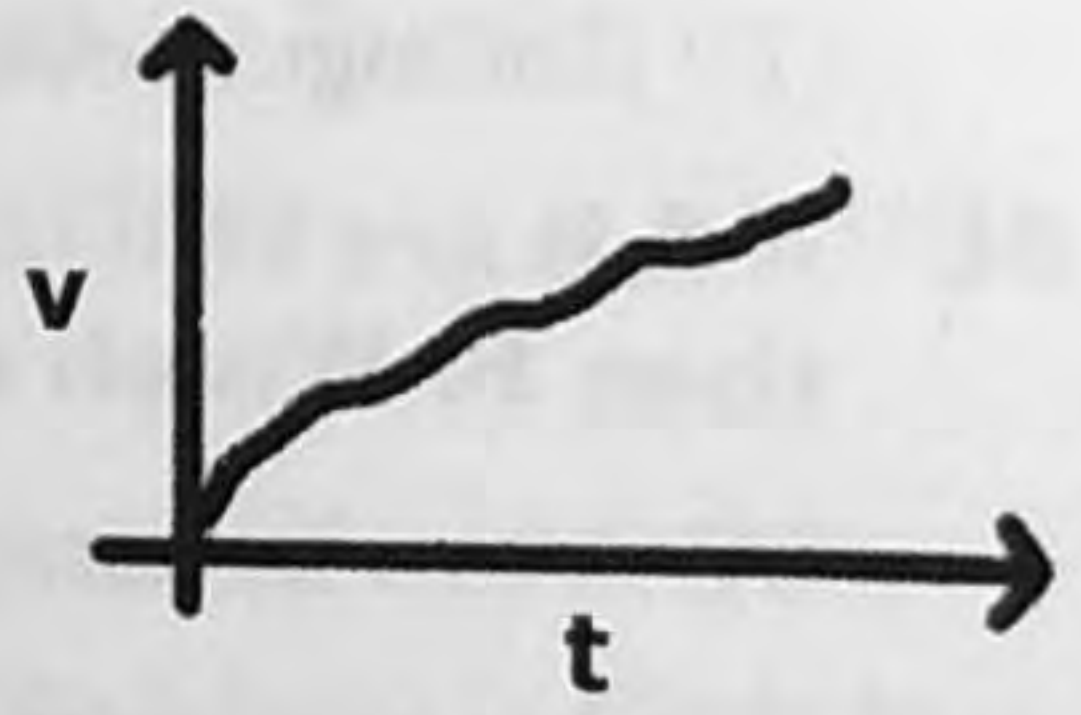
45. A stone is immersed completely in two different liquids P & Q and its weights measured simultaneously as shown in the figure.



Which liquid has more density ?

- (A) P
(B) Q
(C) Both have the same density
(D) Mass of the stone does not change, so the densities cannot be determined

46. Study the graph given below, 'v' is velocity and 't' is time. The graph best represents :



- (A) uniform acceleration
(B) acceleration but not uniform
(C) uniform velocity
(D) constant velocity

47. If the angle of incidence is 60°, then the angle between the incident ray and the reflected ray will be :

- (A) 30° (B) 60° (C) 90° (D) 120°

48. During which phase of the Moon is it the closest to the Sun ?

- (A) Full moon (B) Crescent (C) New moon (D) Half moon

49. When a glass rod is rubbed with silk, it acquires positive charge because :

- (A) it gains electrons (B) it loses electrons
(C) it gains protons (D) it loses protons

50. Upon tightening the string of a violin its _____ increases.
- (A) amplitude (B) time period
(C) pitch (D) none of these

CLASS: VII

CHEMISTRY

51. The atomicity of Phosphorus is :
- (A) 4 (B) 8
(C) 2 (D) 1
52. In the following reaction $\text{H}_2\text{SO}_4 + 2\text{K} \rightarrow \text{K}_2\text{SO}_4 + \text{H}_2$, the valency of 'K' is :
- (A) 1 (B) 2
(C) 4 (D) 1 & 4
53. Hydrogen a gas, combines with Chlorine a liquid, to form HCl. What is HCl ?
- (A) Mixture
(B) Element
(C) Compound
(D) Homogeneous gas-in-liquid solution
54. A & B are two substances. A has less intermolecular force than B. Which of the following statements is true ?
- (A) A can be compressed more easily than B.
(B) B can be compressed more easily than A.
(C) A will expand more easily than B.
(D) A will both expand & get compressed more easily than B.
55. Which of the following equations is NOT balanced correctly ?
- (A) $\text{NaHSO}_4 + \text{NaOH} \rightarrow \text{Na}_2\text{SO}_4 + \text{H}_2\text{O}$
(B) $2\text{NaOH} + (\text{NH}_4)_2\text{SO}_4 \rightarrow \text{Na}_2\text{SO}_4 + 3\text{NH}_2 + \text{H}_2\text{O}$
(C) $6\text{NH}_4\text{OH} + \text{Al}_2(\text{SO}_4)_3 \rightarrow 2\text{Al}(\text{OH})_3 + 3(\text{NH}_4)_2\text{SO}_4$
(D) $\text{MgSO}_4 + 2\text{HNO}_3 \rightarrow \text{Mg}(\text{NO}_3)_2 + \text{H}_2\text{SO}_4$

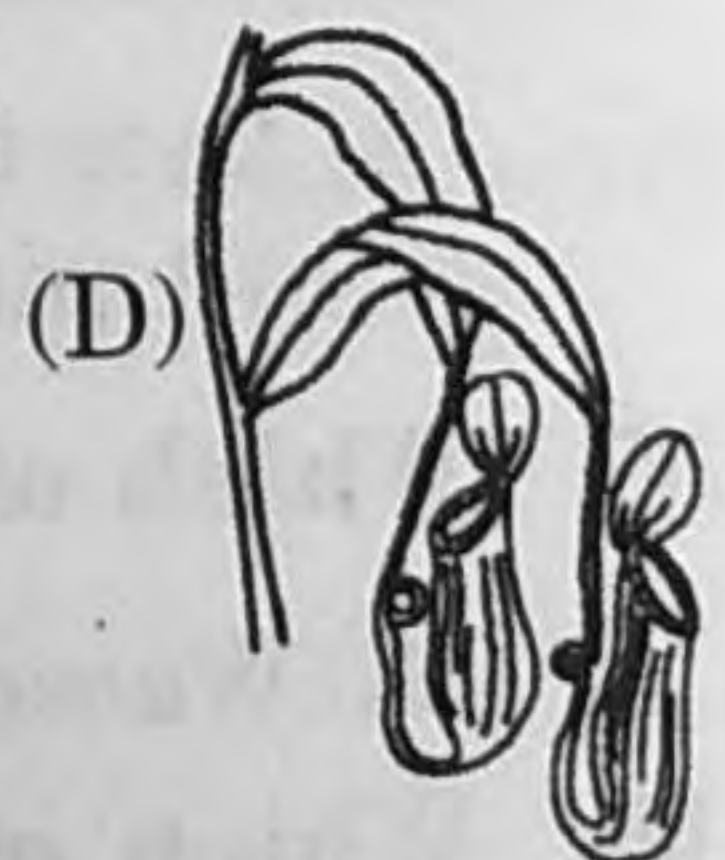
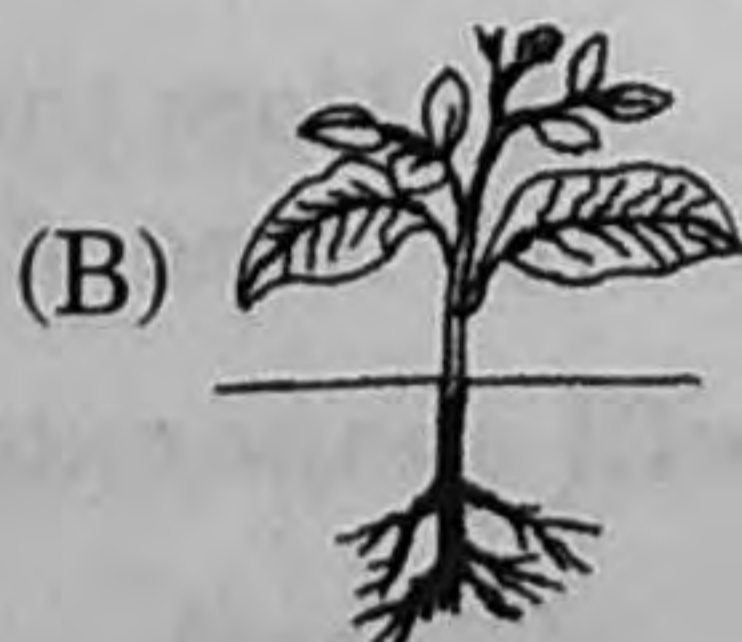
56. The valency of nitrogen is:
 (A) 1 (B) 3 (C) 5 (D) both B & C
57. Which of the following remains constant when a substance changes from one state to another at its melting or boiling points?
 (A) Density (B) Temperature
 (C) Volume (D) Pressure
58. Liquids with low boiling points are usually:
 (A) more volatile (B) more viscous
 (C) less volatile (D) more dense
59. An example of 'solid-in-air' mixture is:
 (A) fog (B) dew (C) mist (D) smoke
60. Ammonium hydroxide is a base, it will turn phenolphthalein:
 (A) green (B) blue (C) pink (D) colourless
61. _____ + $\text{H}_2\text{SO}_4 \rightarrow \text{CuSO}_4 + \text{H}_2\text{O}$
 (A) CuO (B) CuCO_3 (C) Cu (D) $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$
62. Water reacts with non-metallic oxides to form:
 (A) acids (B) bases (C) acidic oxides (D) salts
63. The melting point of ice is:
 (A) 100°C (B) -32°F (C) 273 K (D) none of these
64. The atmospheric pressure on the Himalayas is very low. If it takes 10 minutes to boil a glass of water on the plains, how much time will it take to boil it on top of the Himalayas?
 (A) Less than 10 minutes (B) More than 10 minutes
 (C) 10 minutes (D) None of these
65. Which of the following will evaporate the fastest?
 (A) Water (B) Petrol (C) Curd (D) Coffee
66. Which of the following elements has a definite volume but no shape?
 (A) Hg (B) Fe (C) Sn (D) Br

67. Vitamin C is required by our body to fight diseases. What is it ?
- (A) Ascorbic acid (B) Citric acid
(C) Lactic acid (D) Tartaric acid
68. Which of the following metals can displace Iron from FeSO_4 ?
- (A) Nickel (B) Lead (C) Copper (D) Magnesium
69. It is not advisable to drink pure water because it :
- (A) is poisonous (B) is odourless
(C) contains less oxygen (D) is a good solvent
70. 'Milk of magnesia' is used to make :
- (A) Health drinks (B) Antacids
(C) Acids (D) Alkalis & bases

CLASS: VII

BIOLOGY

71. Which of the following organisms does not belong to the group of unicellular organisms ?
- (A) Amoeba (B) Paramecium (C) Euglena (D) Spirogyra
72. Which of the following is NOT an abiotic component ?
- (A) Temperature (B) Air (C) Minerals (D) Earthworm
73. Find the missing component 'X' in the given levels of organisation
- Population → Community → Ecosystem → X
→ Biosphere
- (A) Lithosphere (B) Population (C) Biomes (D) Community
74. Which of the following is insectivorous ?

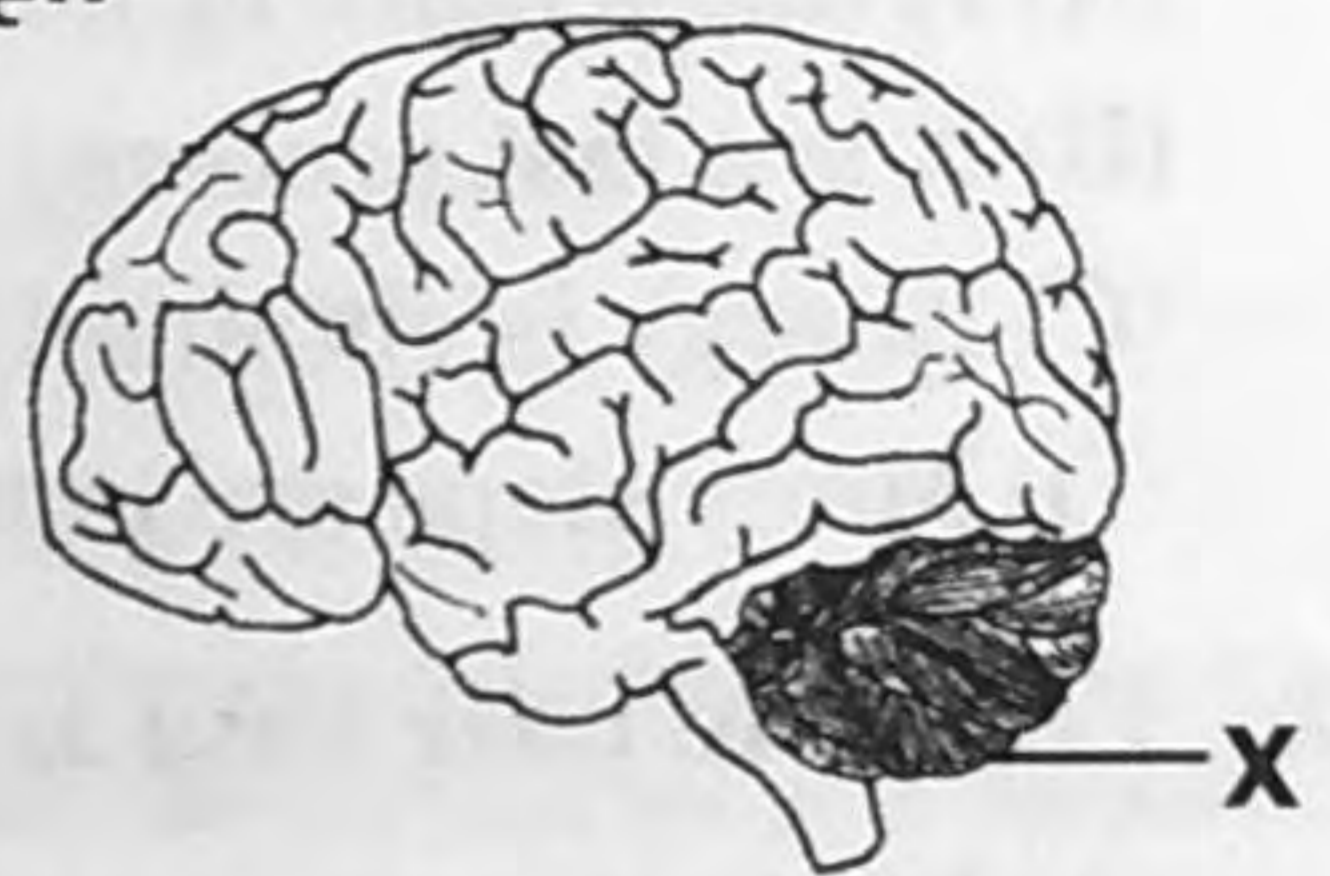


- 75. Find the pair that is NOT matched correctly**
- (A) Gastric glands - gastric juice
 - (B) Pancreas - Pancreatic juice
 - (C) Salivary glands - Saliva
 - (D) Liver - Maltase
- 76. Which of the following is NOT applicable for the process of respiration ?**
- (A) It takes place at normal temperature (37°C)
 - (B) It is a fast process
 - (C) Energy is obtained in the form of chemical molecules
 - (D) Many steps are involved in the break down of food
- 77. Find the pair that is correctly matched**
- (A) Leaf - stomata
 - (B) Fish - tracheal tubes
 - (C) Cockroach - wind pipe
 - (D) Earthworm - lungs
- 78. In man, exchange of gases occurs in:**
- (A) Lungs
 - (B) Bronchial tubes
 - (C) Wind pipe
 - (D) Alveoli
- 79. Which of the instruments is used by doctors to count the heartbeat ?**
- (A) Manometer
 - (B) Sphygmomanometer
 - (C) Stethoscope
 - (D) Aneroid barometer
- 80. Which of the following blood cells help in the clotting of blood ?**
- (A) RBC
 - (B) Platelets
 - (C) WBC
 - (D) Plasma
- 81. Deoxygenated blood is collected and emptied in which chamber of the heart ?**
- (A) Right auricle
 - (B) Right ventricle
 - (C) Left auricle
 - (D) Left ventricle

82. Which of the following organs is excretory in function ?
 (A) Liver (B) Skin (C) Kidneys (D) All of these
83. Which of the following cannot be grouped with the others?
 (A) Rubber (B) Raphides (C) Starch (D) Latex
84. Potato plants are grown by :
 (A) Flowers (B) Fruits (C) Seeds (D) Buds (eyes)

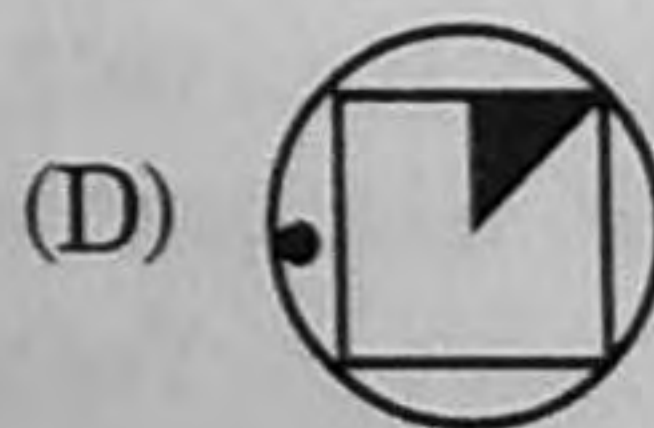
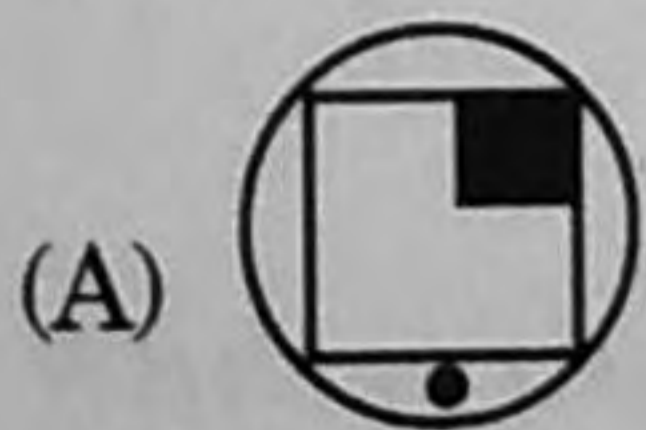
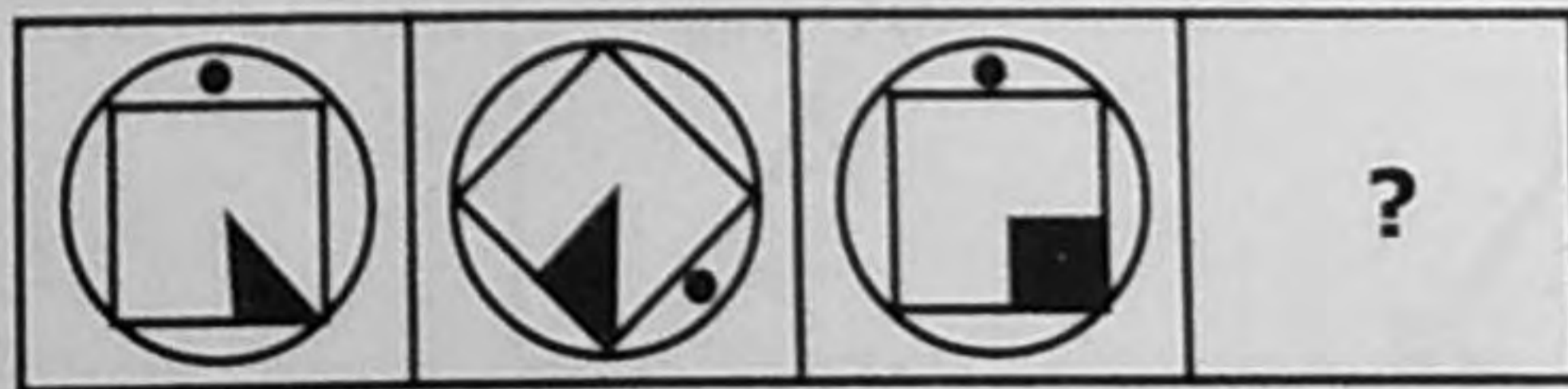
85. The part labelled 'X' in the given figure of brain is :

- (A) Cerebrum
 (B) Cerebellum
 (C) Medulla Oblongata
 (D) Spinal cord



86. The number of spinal nerves in man are :
 (A) 21 pairs (B) 12 pairs (C) 31 pairs (D) 13 pairs
87. Which of the following is NOT a plant hormone ?
 (A) Auxin (B) Gibberellins
 (C) Insulin (D) Cytokinins
88. Phototropism is seen in :
 (A) Roots (B) Stem
 (C) Mimosa leaves (D) Sunflower
89. In which of the following organisms does growth occur due to the presence of meristematic tissue ?
 (A) Butterfly (B) Silk moth (C) Sunflower (D) Frog
90. Match the following and choose the correct answer.
- | | |
|--------------|-----------------------------|
| (i) Yeast | (A) Vegetative reproduction |
| (ii) Mucor | (B) Budding |
| (iii) Lizard | (C) Spores |
| (iv) Banana | (D) Regeneration |
- (A) i-b, ii-c, iii-d, iv-a
 (B) i-c, ii-b, iii-a, iv-d
 (C) i-d, ii-c, iii-b, iv-a
 (D) i-a, ii-b, iii-c, iv-d

91. The speed of supersonic aircrafts is measured in :
- (A) Miles per hour (B) Machs
(C) Light years (D) Nautical miles
92. If 'some cars are buses and all buses are trains,' then which of the following is definitely TRUE ?
- (A) Some buses are cars (B) All trains are buses
(C) Some buses are trains (D) None of the above
93. LASER is the acronym for :
- (A) Light Amplification by Stimulated Emission of Radiation
(B) Licentiate in Acutal Standardisation of Educational Research
(C) Light Aided Surgery and Engineering Research
(D) Left front of Assam and Sciences of Engineering & Research
94. Vikram Seth is a celebtrated :
- (A) actor (B) player (C) scientist (D) writer
95. The only mammal that cannot jump on its feet is :
- (A) Elephant (B) Giraffe
(C) Donkey (D) Yak
96. Which of the following figures best completes the series given below ?



- 97. Rajiv is 10 years older than Imran. After 5 years Rajiv's age will be two times Imran's. What is Imran's age now ?**
(A) 34 years (B) 7 years (C) 40 years (D) 5 years
- 98. The highest cricket ground in the world is situated in :**
(A) Holland (B) India
(C) South Africa (D) Australia
- 99. 'Operation flood' is concerned with :**
(A) an army offensive (B) interlinking of rivers
(C) flood control (D) milk production
- 100. The oldest granite temple is located in :**
(A) Tamil Nadu (B) Maharashtra
(C) Orissa (D) Ladakh