

2022 - 2023



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CLASS 6

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- You must complete the paper within the time allotted.
- Do not open this question paper until you are permitted to.
- You are not allowed to use a calculator.
- Figures herein are not to scale. Hence, you cannot depend on the estimate of size or measurement. Use your knowledge of the subject.
- Rough work shall be carried out only in the space provided for the same throughout this booklet. No separate sheets are allowed for the same.
- Return your answer sheet to the invigilator soon after completion and before leaving the examination hall. Take the question paper with you.
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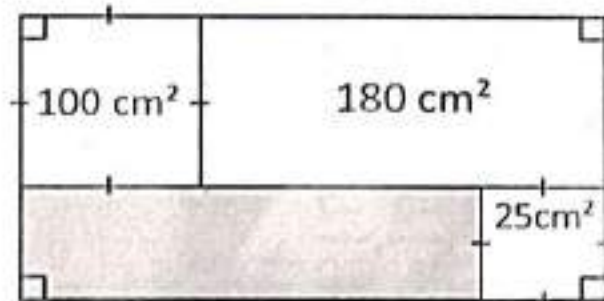
01 How many integers between 2022 and 2400 have four distinct digits arranged in the increasing order? (for example, 2348 is one integer).

- (A) 13 (B) 14 (C) 15 (D) 16

02 Choose the result of $\frac{-\frac{1}{2} - \frac{2}{3} + \frac{4}{5} - \frac{1}{3} + \frac{1}{5} + \frac{3}{4}}{\frac{1}{2} + \frac{2}{3} - \frac{4}{5} + \frac{1}{3} - \frac{1}{5} - \frac{1}{4}}$.

- (A) $\frac{-10}{3}$ (B) $\frac{-3}{10}$ (C) 1 (D) -2

03 The figure below is not drawn to scale. It is made up of two rectangles and two squares. Choose the area of the shaded rectangle.



- (A) 115 cm² (B) 120 cm²
(C) 105 cm² (D) 130 cm²

Space for rough work

08 Which option has a solution of x as -42 ?

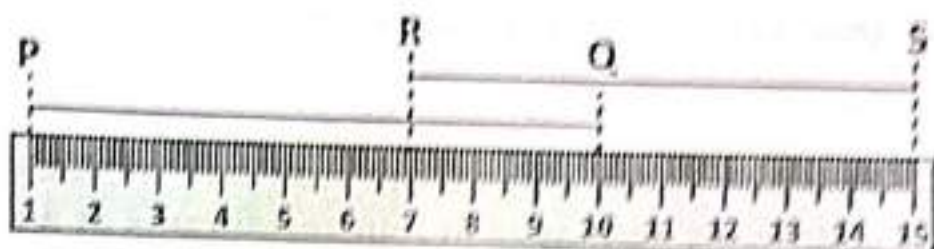
(A) $\frac{x}{6} = \frac{x}{7} + 1$

(B) $\frac{x}{7} = \frac{x}{6} - 1$

(C) $\frac{x}{7} = \frac{x}{6} + 1$

(D) $\frac{x}{7} = \frac{x}{14} + 3$

09 Find the difference between the lengths of \overline{PQ} and \overline{RS} .



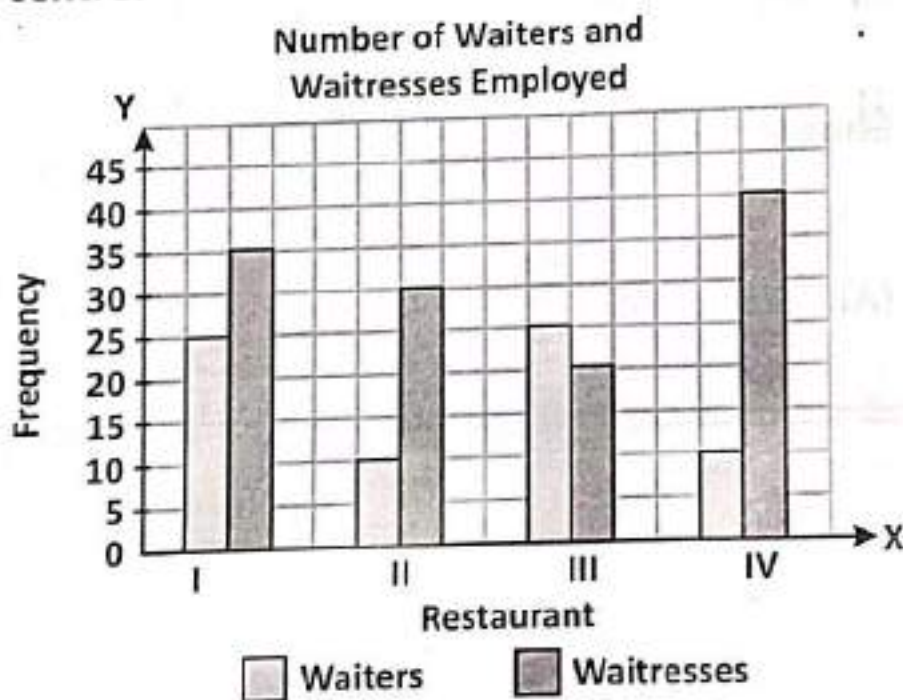
(A) 0 cm (B) 1 cm (C) 2 cm (D) 5 cm

10 Choose the result of $\left(\frac{23}{2} \times \frac{23}{2} - 23 \times \frac{7}{2} + \frac{7}{2} \times \frac{7}{2} \right)$.

(A) 225 (B) $\frac{65}{4}$ (C) $\frac{71}{4}$ (D) 64

Space for rough work

- 11 How many whole numbers are there from 50 to 499 ?
(Both 50 and 499 are included).
- (A) 448 (B) 449
(C) 450 (D) 451
- 12 Choose the number of lines of symmetry of a square.
- (A) 2 (B) 3 (C) 4 (D) 5
- 13 If $\angle A + \angle C = 120^\circ$, $\angle B + \angle C = 140^\circ$ and $\angle A + \angle B = 100^\circ$, then select the measure of $\angle A$.
- (A) 40° (B) 60° (C) 70° (D) 50°
- 14 The bar chart shows the number of waiters and waitresses employed in four restaurants at a shopping centre.



Which restaurants had 10 waiters ?

- (A) I and IV (B) I and II
(C) II and IV (D) II and III

15 If ₹ 5,30,835 is divided between A and B in the ratio of $\frac{3}{5} : \frac{5}{6}$, then what is the share of A ?

- (A) ₹ 3,08,635 (B) ₹ 1,50,470
(C) ₹ 3,80,365 (D) ₹ 2,22,210

16 If $\frac{3}{5} : \frac{5}{6} = x : \frac{25}{9}$, then select the value of x .

- (A) 4 (B) 2 (C) 1 (D) 3

17 Choose the result of

$$(615 \times 567 - 861 \times 99 - 369 \times 321 - 123 \times 2739)$$

- (A) -2,00,690 (B) -1,87,655
(C) -1,56,765 (D) -1,91,880

18 Select the result of

$$\left(\frac{3x}{4} - \frac{5y}{9} - \frac{xy}{5} + \frac{2y}{3} - \frac{7x}{8} + \frac{3xy}{25} + \frac{7x}{16} - \frac{14y}{15} - \frac{31xy}{50} \right)$$

(A) $\left(\frac{5x}{16} - \frac{37x}{45} + \frac{7xy}{10} \right)$ (B) $\left(\frac{5x}{16} - \frac{37y}{45} - \frac{7xy}{10} \right)$

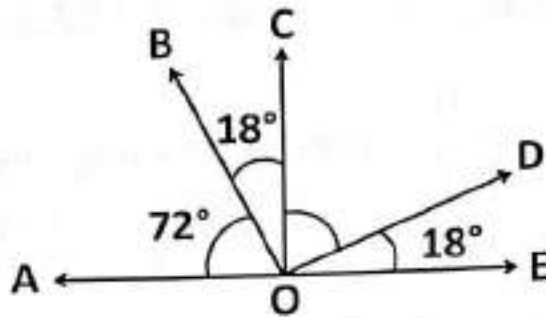
(C) $\left(\frac{5x}{16} + \frac{3y}{45} - \frac{7xy}{10} \right)$ (D) $\left(\frac{5x}{16} - \frac{3y}{45} + \frac{xy}{10} \right)$

Space for rough work

19 What is the remainder if 789789789789789 is divided by 11 ?

- (A) 7 (B) 3 (C) 8 (D) 4

20 Choose the number of right angles in the figure.



- (A) 1 (B) 2 (C) 3 (D) 4

21 Area of a square and a rectangle is same. If a side of a square is 15 cm and one side of a rectangle is 9 cm. Choose the perimeter of the rectangle.

- (A) 72 cm (B) 68 cm
(C) 84 cm (D) 76 cm

Space for rough work

22 Select the greatest option.

- (A) $\frac{-6}{7}$ (B) $\frac{-7}{8}$ (C) $\frac{-4}{5}$ (D) $\frac{-3}{4}$

23 If a pyramid has 10 edges, then what are number of faces of that pyramid ?

- (A) 4 (B) 5 (C) 6 (D) 7

24 If $10 + 11 + 12 + \dots + 100 = 5005$ and $95 + 96 + 97 + \dots + 200 = 15635$, then what is the result of $10 + 11 + 12 + \dots + 200$?

- (A) 1,99,995 (B) 2,00,000
(C) 20,055 (D) 19,985

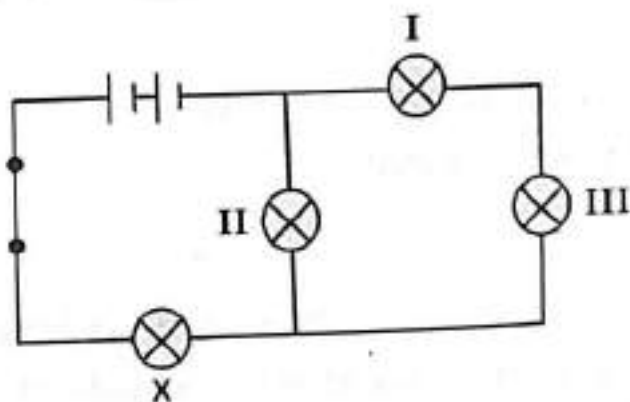
25 The sum of two fractions is $5\frac{1}{7}$. If one of the fraction is

$4\frac{1}{3}$, then what is the other fraction ?

- (A) $\frac{17}{21}$ (B) $\frac{19}{21}$ (C) $1\frac{1}{21}$ (D) $1\frac{2}{21}$

Space for rough work

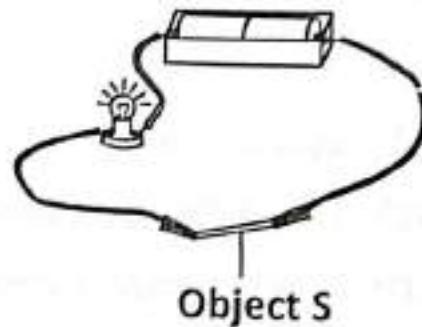
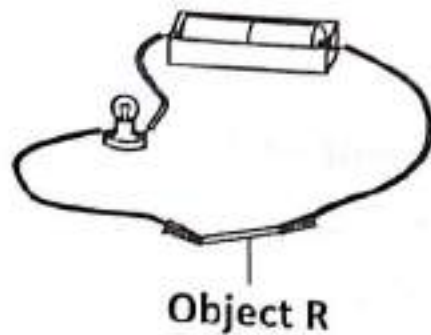
- 26 Observe the electric circuit diagram given below carefully.



Which of the bulb or bulbs in the above circuit will light up when Bulb X has fused ?

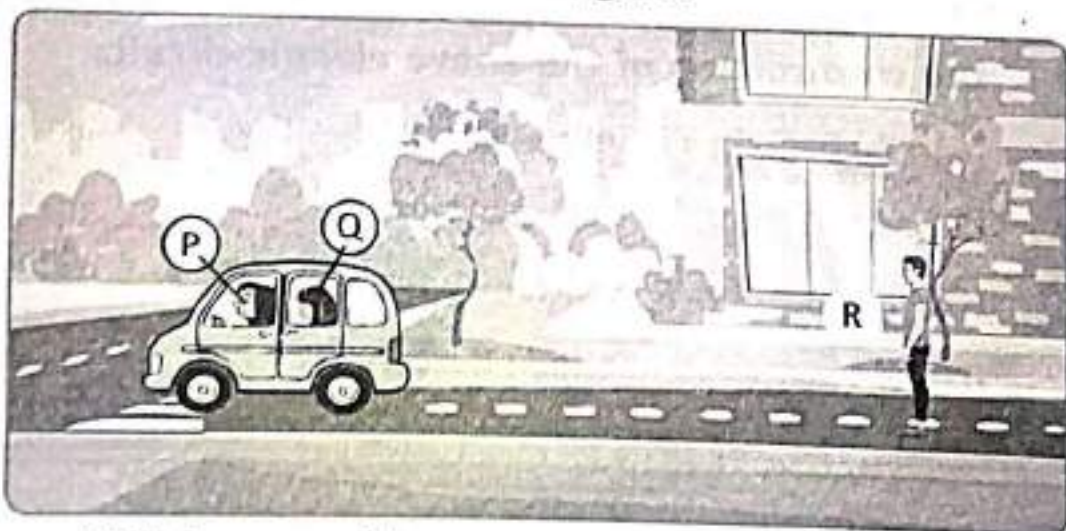
- (A) Bulb II only
 (B) Bulbs I and III only
 (C) Bulbs I, II and III
 (D) None of the bulbs
- 27 The whole length of a metre scale is divided into 500 equal parts, then the smallest measurement that can be measured by using the scale is
- (A) 0.5 m (B) 0.005 m
 (C) 50 mm (D) 2 mm
- 28 A light sensor has a scale of 0 to 5. Materials that block light completely will show the lowest reading while that do not block light will show the highest reading. Identify the readings when light was shown on a piece of tracing paper and a piece of sandpaper respectively.
- (A) 0, 5 (B) 3, 5
 (C) 2, 0 (D) 5, 0

- 29 When Object R is connected to a circuit tester as shown below, the bulb in the circuit does not light up. When Object S is connected to the same circuit tester, the bulb in the circuit lights up.



What could be the reason ?

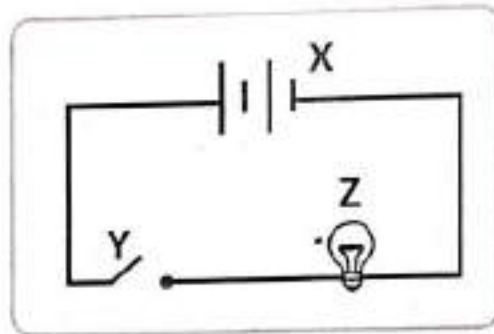
- (A) Object R is a bad conductor of heat.
 (B) Object S is a bad conductor of heat.
 (C) Object R is a good conductor of electricity.
 (D) Object S is a good conductor of electricity.
- 30 A car is moving on the road. Three persons P, Q and R are shown below in the figure.



Which person(s) are at rest with respect to the car ?

- (A) P and R (B) Q and R
 (C) P and Q (D) Both (A) and (C)

- 31 A student has three materials P, Q and R. She tries to see through P but she can see everything faintly. Through Q she cannot see anything and through R she can see everything clearly. Materials P, Q and R respectively are
- (A) transparent, translucent, opaque.
 (B) opaque, translucent, transparent.
 (C) translucent, opaque, transparent.
 (D) opaque, transparent, translucent.
- 32 An electric circuit is shown below.

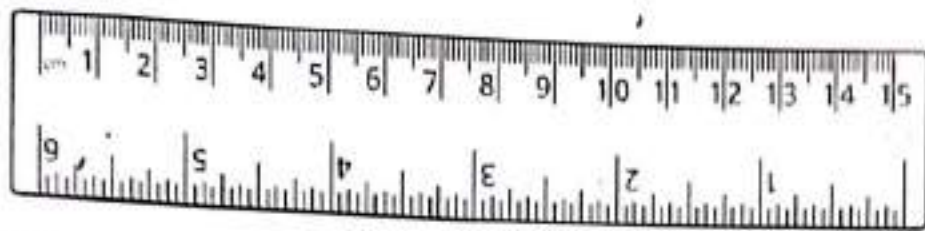


Identify the electrical components X, Y and Z used in the construction of the above electric circuit.

- (A) X : Switch; Y : Cell; Z : Bulb
 (B) X : Battery; Y : Cell; Z : Bulb
 (C) X : Battery; Y : Switch; Z : Bulb
 (D) X : Switch; Y : Cell; Z : Battery

Space for rough work

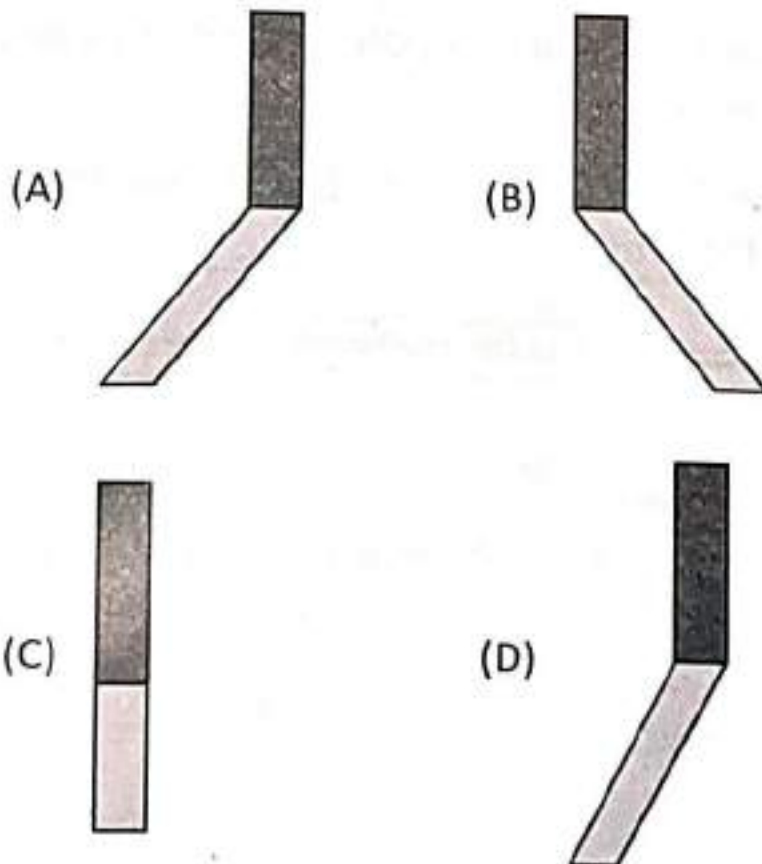
33 The figure given below shows a measuring scale.



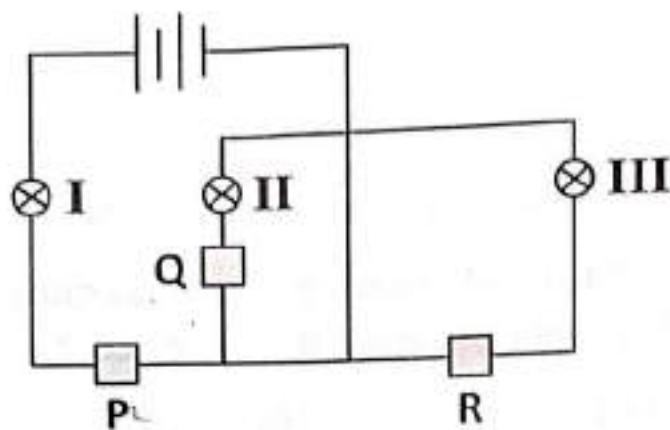
Which of the following distance cannot be measured with this scale by using it only once ?

- (A) 0.1 m (B) 0.15 m
(C) 0.2 m (D) 0.05 m

34 The size and shape of the shadow of both living and non-living beings changes with time. Which of the following shadow represents that the girl is standing when the Sun is over her head ?



- 35 Observe the electric circuit diagram shown below.

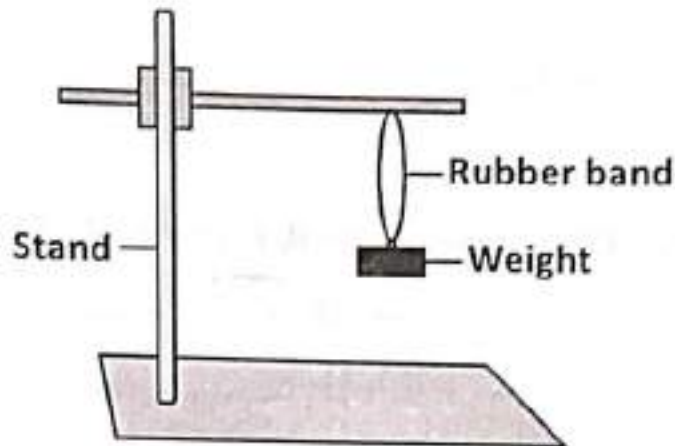


Why only bulbs I and II light up ?

- (A) Object P : Insulator; Object Q : Conductor; Object R : Conductor
- (B) Object P : Conductor; Object Q : Insulator; Object R : Conductor
- (C) Object P : Conductor; Object Q : Conductor; Object R : Insulator
- (D) Object P : Conductor; Object Q : Insulator; Object R : Insulator

Space for rough work

- 36 A student tested the flexibility of 4 identical rubber bands by hanging each from a stand and then adding a weight to it as shown below:



She then noted how much each rubber band stretched by measuring its length and recorded her results in a table shown below.

Rubber bands	Length
1	15 cm
2	9 cm
3	13 cm
4	18 cm

Which rubber band is the least flexible ?

- (A) 3 (B) 2 (C) 1 (D) 4

Space for rough work

- 37 Some substances absorb heat and expand while some lose heat and contract. Which of the given processes absorb heat to change their state in the case of water ?
- (A) Condensation; Melting
(B) Condensation; Freezing
(C) Evaporation; Melting
(D) Evaporation; Freezing
- 38 Observe the figures X and Y shown below.

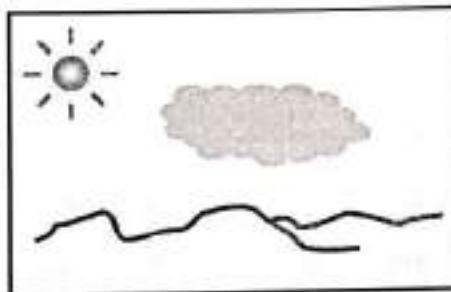


Figure X

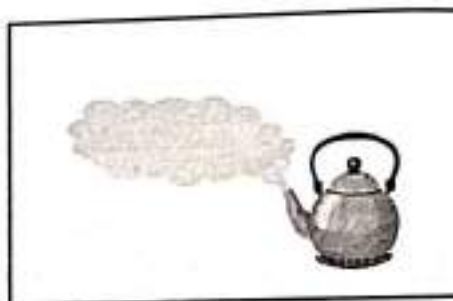


Figure Y

Identify the similarity between the two clouds.

- (A) Both of them are formed by condensation of water.
(B) Both of them are made up of tiny water droplets.
(C) Both of them are formed by evaporation of water.
(D) Both (A) and (B)
- 39 Sand (1) and wax paper (2) are grouped differently because
- (A) (1) floats on water and (2) sinks in water
(B) (1) is smooth and (2) is rough
(C) (1) is soluble in water and (2) is insoluble in water
(D) (1) is opaque and (2) is translucent

- 40** A glass of ice cold water was left on the table to bring it to room temperature. After some time water droplets appeared on the outer surface of the glass due to
- (A) evaporation of water from the glass.
 - (B) water that seeped out from the glass.
 - (C) evaporation of atmospheric water vapour.
 - (D) condensation of atmospheric water vapour.
- 41** Read the different types of changes given in the box.

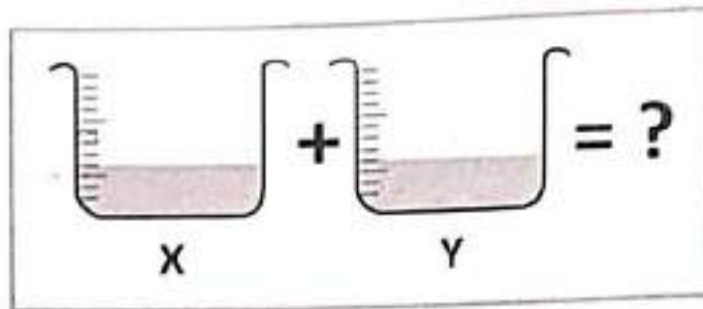
- (i) Stretching of a rubber band
- (ii) Dissolving sugar in water
- (iii) Burning of magnesium ribbon in air
- (iv) Evaporation of sea water

Which of them are physical and reversible changes ?

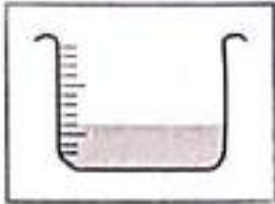
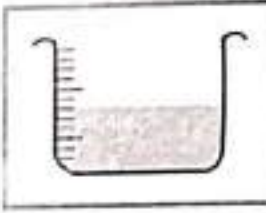
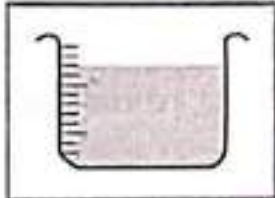
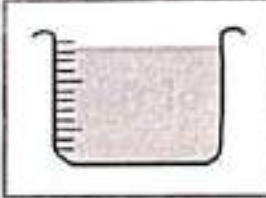
- (A) (i), (ii) and (iii) only
- (B) (ii), (iii) and (iv) only
- (C) (i), (ii) and (iv) only
- (D) All of the above

Space for rough work

42 X is a liquid partly soluble in liquid Y. Equal volumes of each liquid are taken in two beakers as shown below.

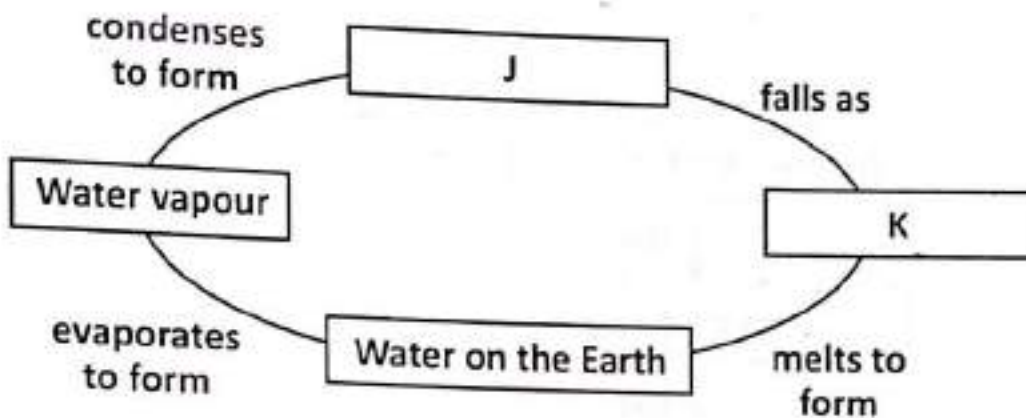


Which beaker shows the most likely outcome if the two liquids are mixed ?

- (A)  (B) 
- (C)  (D) 

Space for rough work

- 43 The movement of water between the Earth and the sky takes place repeatedly in a cycle as shown below.



Which of the following can J and K be ?

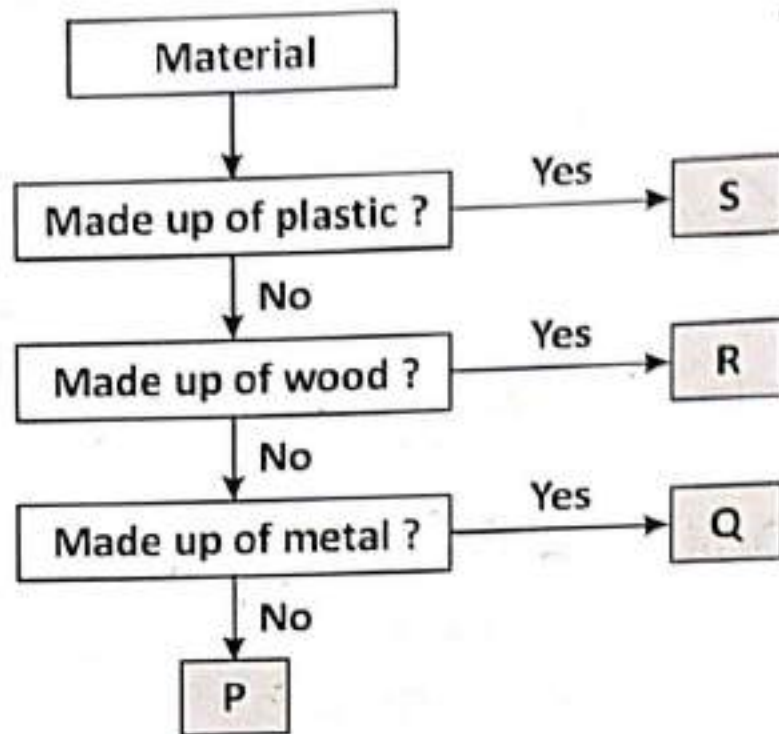
- (A) J : Clouds; K : Thunder
 (B) J : Clouds; K : Rain/Snow
 (C) J : Rainbow; K : Rain
 (D) J : Thunder; K : Rain
- 44 Four different solutions in water were prepared by using the following powders.



If you filter the above solutions each through a filter paper, there will be no residue left after filtration in the case of which powder ?

- (A) Charcoal (B) Chalk
 (C) Slaked lime (D) Detergent

45 Read the flow chart given below carefully.



Which of the following are P, Q, R and S most likely to be ?

	P	Q	R	S
(A)	Tablecloth	Spectacles	Cork	Chopsticks
(B)	Handkerchief	Chain	Toothpick	Pail
(C)	Tyre	Safety pin	Shirt	Toy
(D)	Sponge	Wire	Note pad	Nail

Space for rough work

- 46** Parasitic roots are also called as sucking roots: What can be inferred about of such roots ?
- (A) They help to increase the fertility of the soil by nitrogen fixation.
- (B) These roots absorb atmospheric air for respiration.
- (C) They protrude into the host plant for absorption of nutrients.
- (D) They have sucking tissues to absorb moisture from air.
- 47** Varun is his school's best foot ball player and he is advised to eat food stuffs which give energy. He should eat more of
- (A) Vitamins & Minerals (B) Carbohydrates
- (C) Proteins (D) Fibres
- 48** Malaria can be prevented by

- (i) Spraying oil on the surface of the water
- (ii) Throwing food residue into rubbish bin
- (iii) Rearing fish in ponds

- (A) (i) and (ii) only (B) (ii) and (iii) only
- (C) (i) and (iii) only (D) (i), (ii) and (iii)

Space for rough work

- 49 Match the organisms in Column I with their locomotory organs in Column II and select the correct option.

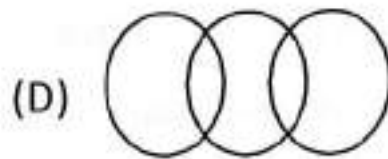
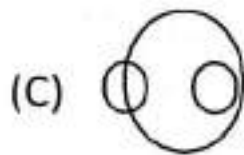
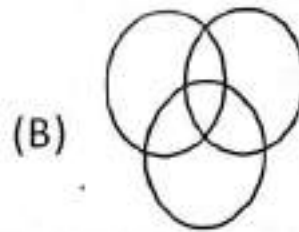
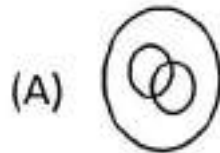
	Column I		Column II
a	Snail	i	Jointed legs
b	Cockroach	ii	Muscular foot
c	Earthworm	iii	Scales
d	Snake	iv	Setae

- (A) a - i; b - ii; c - iii; d - iv
(B) a - ii; b - i; c - iv; d - iii
(C) a - iii; b - i; c - ii; d - iv
(D) a - ii; b - i; c - iii; d - iv
- 50 Priya's hand bag accidentally came into contact with fire, releasing a strong odour of burning paper. The material used for making the bag must have come from
- (A) Cocoon of silkworm
(B) Skin of animals
(C) Fleece of sheep
(D) Bolls or fruits of cotton plant
- 51 Which option contains foods obtained from stem of the plant ?
- (A) Ginger, Potato, Turmeric
(B) Turnip, Carrot, Onion
(C) Broccoli, Sugarcane, Colocasia
(D) Ginger, Radish, Potato

- 52** Which of the following characteristics of birds help them to fly ?
- (A) Hollow bones
(B) Streamlined body shape
(C) Strong breast muscles
(D) All of these
- 53** Which of the following is not a herb ?
- (A) Coriander plant (B) Mustard plant
(C) Wheat plant (D) Lemon plant
- 54** Painful bones, bowed legs and thickened wrists are a deficiency disease 'X'. Identify the deficiency disease.
- (A) Marasmus (B) Kwashiorkor
(C) Pellagra (D) Rickets
- 55** X consumes dead animals whereas Y breaks down the dead remains of plants and animals. Identify X and Y and select the correct statement.
- (A) X could be leech whereas Y could be tapeworm.
(B) X could be hyena whereas Y could be bacteria.
(C) X could be hookworm whereas Y could be tapeworm.
(D) X could be bacteria whereas Y could be vulture.

Space for rough work

- 56 Choose the venn diagram that best represents athletes, sprinters and marathon runners.



- 57 Seven persons: Pavan, Rani, Ramesh, Suresh, Tony, Umesh and Valli are sitting in a row facing us. Ramesh and Suresh sit next to each other. There must be exactly four persons between Rani and Valli. Suresh sits to the immediate left of Valli.

If Rani sits at one extreme, then who is at the other extreme ?

- (A) Pavan
 (B) Tony
 (C) Valli
 (D) Given information is not sufficient

Space for rough work

58

7 cards are arranged as shown. Each card has 2 numbers on with 1 of them written down. The teacher wants to rearrange the cards so that the sum of the numbers in the top row is the same as the sum of the numbers in the bottom row. She can do this by turning one of the cards upside down. Which card must she turn ?

9	3	8	6	1	2	3
1	4	2	5	4	8	6
P	Q	R	S	T	U	V

- (A) Q (B) S (C) V (D) J

59

Read the given statements and answer the question

Statement I: Revanth was born in 2001.

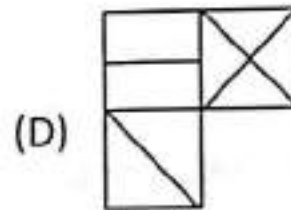
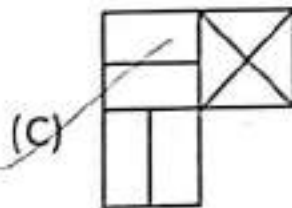
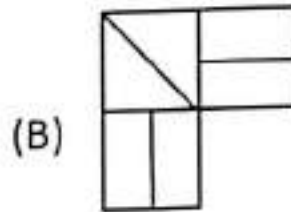
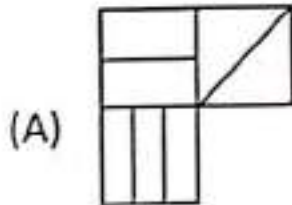
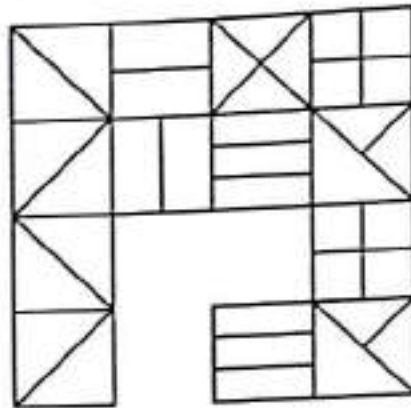
Statement II: Rakesh is 3 years younger to Revanth, who is 20 years old.

Which of the above statements are required to know in which year Rakesh was born ?

- (A) Statement I is enough.
 (B) Statement II is enough.
 (C) Neither I nor II is sufficient.
 (D) Both statements I and II are necessarily needed.

Space for rough work

60 Select the missing piece.



Space for rough work