

2022-23



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CLASS 7

Please fill the following details immediately

Name _____

Hall Ticket No. _____

Questions : 60

Time : 60 minutes

INSTRUCTIONS

Read all instructions carefully before attempting any question.

- Ensure that the 'Class' printed here and inside, is the same as the test you are appearing for.
- 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.
- There is no negative marking.
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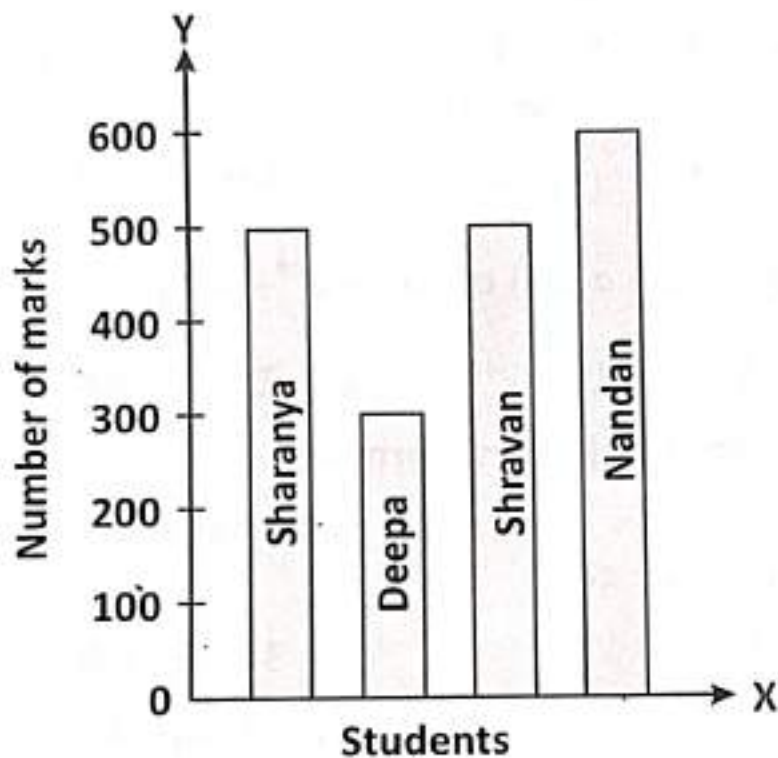
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- 01** If $\frac{1}{4} \times \frac{2}{6} \times \frac{3}{8} \times \frac{4}{10} \times \frac{5}{12} \times \dots \times \frac{30}{62} \times \frac{31}{64} = 2^x$, then choose the value of x .
 (A) -34 (B) -35 (C) -36 (D) -37
- 02** Choose the equal of $(2^{50} - 2^{49} - 2^{48})$
 (A) 2^{49} (B) 2^{48} (C) 2^{47} (D) 2^{46}
- 03** Choose the simplest form of
 $(123 \times 123 \times 123 + 345 \times 345 \times 345 - 468 \times 468 \times 468 + 369 \times 345 \times 468)$
 (A) 1 (B) 345123468
 (C) 0 (D) 123345468
- 04** If the circumference of a circle is 176 cm, then select its area.
 (A) $9,85 \text{ cm}^2$ (B) 4928 cm^2
 (C) 704 cm^2 (D) $2,464 \text{ cm}^2$
- 05** Choose the result of $(1 - 2 + 3 - 4 + 5 - 6 + \dots + 47 - 48 + 49 - 50 + 51)$
 (A) 26 (B) -25 (C) -26 (D) -24

Space for rough work

- 06 The bargraph shows the marks obtained by four students in a quarterly examination.



Whose performance was the best ?

- (A) Nandan (B) Shravan
 (C) Sharanya (D) Deepa

- 07 Select the simplest value of

$$\left(3\frac{5}{7} + 5\frac{8}{11} \div 8\frac{13}{22} - 7\frac{1}{7} \times 7\frac{7}{10} \right)$$

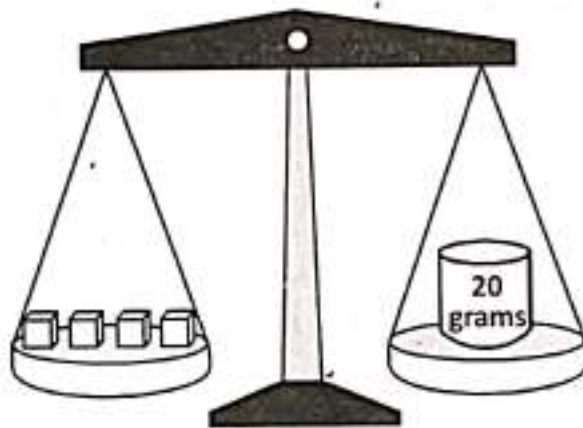
- (A) $-46\frac{508}{948}$ (B) 1
 (C) $-50\frac{13}{21}$ (D) 0

- 08** If the median of the data 123, 144, 156, 163, $167 + x$, $171 + 5x$, 190, 194, 201, 2000 (arranged in the ascending order) is 184, then what is the value of x ?
 (A) 3 (B) 4 (C) 5 (D) 6
- 09** If $\frac{3(z-5)}{4} - 4z = 3 - \frac{(z-3)}{2}$, then select the value of z .
 (A) -1 (B) -3 (C) -2 (D) 5
- 10** Perimeter of an equilateral triangle is $\left(3a - \frac{b}{9} + \frac{c}{81}\right)$ cm. Select the length of its side.
 (A) $\left(a - \frac{b}{27} + \frac{c}{243}\right)$ cm (B) $\left(9a - \frac{b}{3} + \frac{c}{27}\right)$ cm
 (C) $(a + b - c)$ cm (D) $(a - b + c)$ cm
- 11** Select the result of $(-1)^{2022} + (-1)^{2023}$.
 (A) Can't be determined (B) -2
 (C) 0 (D) 2
- 12** Choose the value of $(100^3 - 3 \times 100^2 \times 88 + 3 \times 100 \times 88^2 - 88^3)$
 (A) 13,45,782 (B) -4,864
 (C) 8,000 (D) 1728
- 13** Identify the type of the triangle whose angles ratio is 8:9:19.
 (A) Acute angled triangle
 (B) Right angled triangle
 (C) Obtuse angled triangle
 (D) Triangle does not formed

14 If the side of a square is $8\frac{1}{3}$ cm, then select its area.

- (A) $61\frac{2}{9}$ cm² (B) $63\frac{2}{9}$ cm²
(C) $77\frac{4}{9}$ cm² (D) $69\frac{4}{9}$ cm²

15 The scale shown is balanced. Each cube on the left side weighs the same amount.

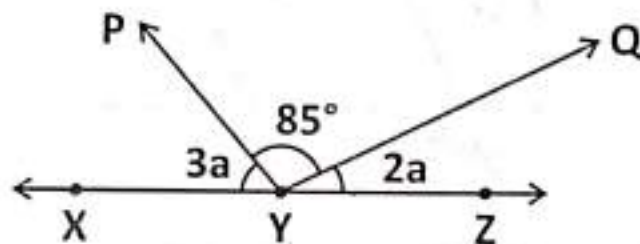


How much does one of the cubes weigh ?

- (A) 1 gram (B) 4 grams
(C) 5 grams (D) 20 grams
- 16 The product of two integers is -48 . If one of the integers is -6 , then what is the value of the other ?
- (A) 1 (B) 288 (C) 0 (D) 8

Space for rough work

- 17 Two triangles, ΔPQR and ΔDEF are of the same size and shape. What can we conclude about them ?
- (A) ΔPQR is smaller than ΔDEF .
 (B) ΔPQR is larger than ΔDEF .
 (C) ΔPQR is congruent to ΔDEF .
 (D) ΔPQR is not congruent to ΔDEF .
- 18 If XYZ is a straight line.



Choose the measure of 'a' from the figure.

- (A) 19° (B) 17° (C) 22° (D) 21°
- 19 Select the correct ascending order option

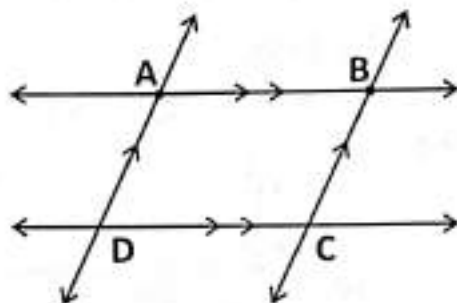
- (A) $-\frac{11}{15}, -\frac{7}{10}, -\frac{17}{30}, -\frac{3}{20}$
- (B) $-\frac{11}{15}, -\frac{7}{10}, -\frac{3}{20}, -\frac{17}{30}$
- (C) $-\frac{11}{15}, -\frac{3}{20}, -\frac{17}{30}, -\frac{7}{10}$
- (D) $-\frac{11}{15}, -\frac{3}{20}, -\frac{7}{20}, -\frac{17}{30}$

Space for rough work

20 If $x : y = 3 : 4$, then find the value of $(2x + 3y) : (5x - 3y)$.

- (A) 18 : 4 (B) 9 : 4
 (C) 9 : 8 (D) 6 : 1

21 In the figure $AB \parallel DC$ and $AD \parallel BC$ and $\angle DAB + \angle BCD = 230^\circ$ find $\angle ABC$.



- (A) 115° (B) 60° (C) 65° (D) 55°

22 The product of two numbers is -303 . If one of the numbers is $7\frac{1}{2}$, then select the other number

- (A) $-40\frac{3}{5}$ (B) $-40\frac{1}{5}$
 (C) $-40\frac{2}{5}$ (D) $-41\frac{3}{5}$

Space for rough work

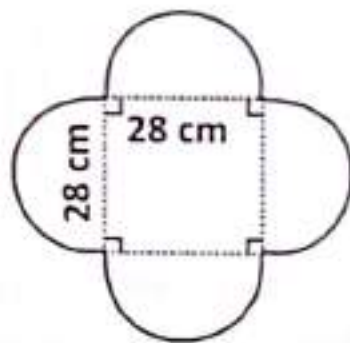
23 Select the result of $\left[(-2^{-3} - 3^{-4}) \div 6^{-2}\right]$

- (A) $4\frac{17}{15}$ (B) $-4\frac{17}{18}$ (C) $-\frac{18}{89}$ (D) $\frac{18}{89}$

24 Choose the value of k if $(-2x^3 + 7x^2) = k\left(\frac{4x}{7} - 2\right)$

- (A) $-\frac{7x^2}{2}$ (B) $\frac{7x^2}{2}$ (C) $-\frac{7x^2}{4}$ (D) $\frac{7x^2}{4}$

25 A wall hanging is in the shape given in the figure. Find its perimeter.



- (A) 176 cm (B) 146 cm
(C) 44 cm (D) 88 cm

Space for rough work

28 A student hung two identical metal cups Y and Z of same mass from a horizontal rod. A lighted candle was then placed directly under Cup Y. After a few minutes, Cup Y moved up and Cup Z moved down. Identify a true statement.

- (A) Cup Y had expanded and became lighter.
- (B) Cup Z had expanded and became heavier.
- (C) The air in Cup Y expanded and rose.
- (D) The air in Cup Z contracted and became heavier.

29 Which one of the following produces a weakest electromagnet ?

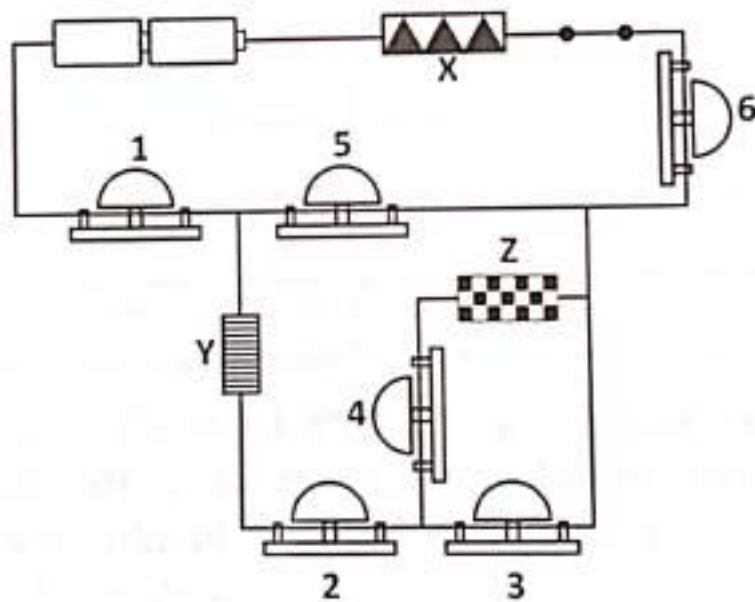
	Coil (cm)	No. of turns
(A)	5	50
(B)	5	100
(C)	10	50
(D)	10	100

30 A man walked at 2 km/h from his house to the neighbourhood park 500 m away. He then jogged around the park at 10 km/h for 30 min. To cool down, he walked back home from the park at 1.5 km/h.

If he started the journey from his home at 6:30 pm, then he would reach home at

- (A) 7:30 pm
- (B) 7:35 pm
- (C) 7:40 pm
- (D) 7:45 pm

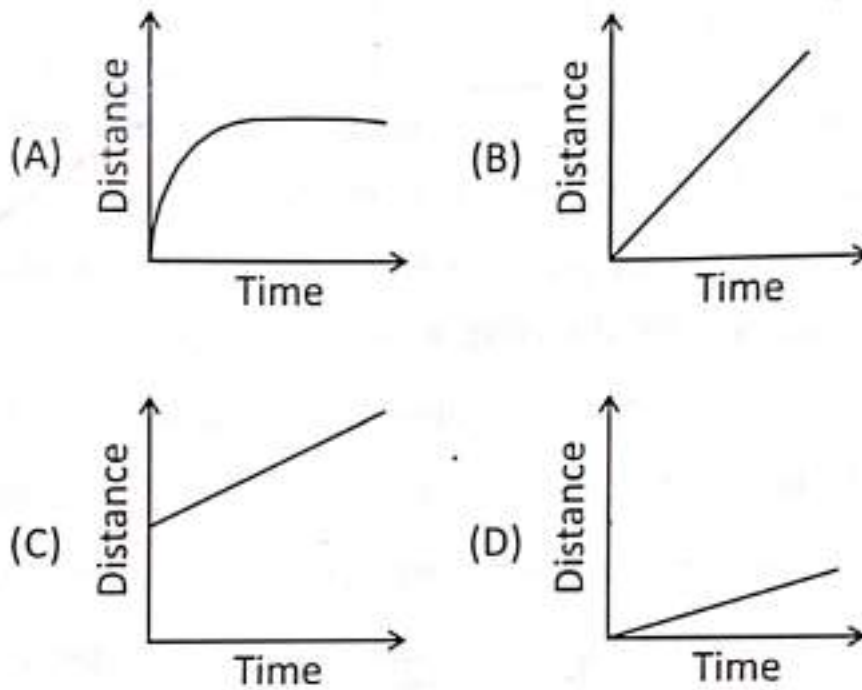
- 31 A student carried out an experiment to find out more about heat. She recorded the temperature of air in a bottle. Then she placed some hot stones in the bottle and sealed it with a rubber stopper. After 5 minutes, she noticed that the temperature of air in the bottle increased as
- (A) air is a good conductor of heat.
 (B) heat flows from the hot stones to the air in the bottle.
 (C) the rubber stopper transfers heat to the air in the bottle.
 (D) the air in the bottle gains heat from the surrounding air.
- 32 Six bells and three objects are connected in an electric circuit as shown below.



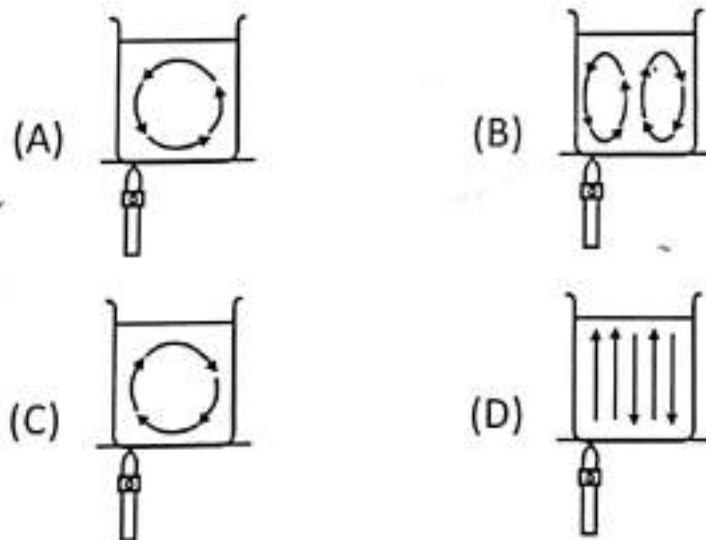
When the switch is closed, only bells 1, 5 and 6 rang. What can you conclude from this electric circuit ?

- (A) Y is not an electrical conductor.
 (B) Z is not an electrical conductor.
 (C) X and Y are electrical conductors.
 (D) X and Z are electrical conductors.

- 33** Which of the following Distance-time graphs does NOT represent constant speed of an object ?



- 34** Which figure correctly shows the convection currents in the beaker of water when it is heated ?



Space for rough work

35 Given below is a paragraph with some missing words.

An electric bulb works on the _____ effect of current. The _____ of the bulb is made up of _____ which heats up when _____ is passed through it and hence glows. Moreover, _____ which is filled inside the bulb _____ the filament from catching fire.

Use the words given in the options to complete the paragraph by choosing a correct option.

- (A) Tungsten, heating, filament, prevents, current, argon gas
- (B) Filament, current, prevents, heating, tungsten, argon gas
- (C) Heating, tungsten, filament, argon gas, current, prevents
- (D) Heating, filament, tungsten, current, argon gas, prevents

Space for rough work

36 Identify a correct statement.

- (A) When air moves from low pressure to high pressure it is called wind.
- (B) The movement of air from land to sea is called sea breeze.
- (C) When the air moves from sea to land it is called land breeze.
- (D) Wind movements are caused by uneven heating of air on the earth.

37 Read the table given below.

Substances	Colour with the Turmeric Solution
W	Yellow
X	Red
Y	Yellow

W, X and Y could be respectively.

- (A) Baking soda, citric acid and sugar
- (B) Washing soda, vinegar and malic acid
- (C) Common salt, washing soda and vinegar
- (D) Window cleaner, washing soda and citric acid

38 Which difference between physical and chemical changes is incorrect ?

	Aspect	Physical Change	Chemical Change
(A)	Energy	Little is required	A lot is required
(B)	New substances	Not formed	Formed
(C)	Process	Irreversible	Reversible
(D)	Mass	No change	Changes

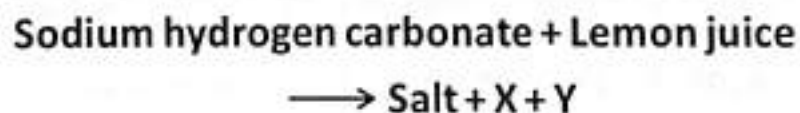
39 Read the information given below.

- W : A physical change in which heat is evolved
 X : A chemical change in which heat and light are produced
 Y : Chemical change in which sound is produced
 Z : A physical change in which heat is absorbed

Identify W, X, Y and Z from the given information.

	W	X	Y	Z
(A)	Drying of wet clothes	Lightening during thunderstorm	Starting a car engine	Grinding of wheat
(B)	Melting of glaciers	Burning of candle	Rusting	Crystallisation
(C)	Boiling of water	Burning of magnesium	Grinding of wheat	Ripening of fruits
(D)	Condensation	Burning of wood	Bursting of crackers	Melting of ice

40 Given below is a chemical reaction.



Identify X and Y in the given reaction.

	X	Y
(A)	Acid	Base
(B)	Water	Carbon dioxide
(C)	Acid	Oxygen
(D)	Carbon dioxide	Oxygen

- 41** On the earth, the winds from the north and the south blow towards the equator. Why does it happen ?
- (A) Earth is round or spherical in shape.
 (B) It is hotter in and around the equator.
 (C) It is hotter in and around the north and the south.
 (D) Wind does not flow from the east or the west.
- 42** Two salts 'X' and 'Y' are taken in two test tubes '1' and '2' respectively and subjected to heating. Water is added to two test tubes, in case of '1' salt regains its original colour and in case of '2' water starts boiling. Then X and Y respectively are
- (A) blue vitriol and limestone
 (B) blue vitriol and baking soda
 (C) nitre and limestone
 (D) nitre and washing soda
- 43** Given below are some bases along with their sources. Identify an incorrect base and its source.

	Bases	Sources
(A)	Calcium hydroxide	Lime water
(B)	Ammonium hydroxide	Window cleaner
(C)	Magnesium hydroxide	Whitewash
(D)	Potassium hydroxide	Soap

Space for rough work

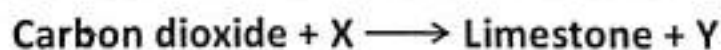
- 44 Match the substances of Column-I with the product, type of change or process of Column-II.

	Column I		Column II
(P)	Depositing a layer of zinc on iron articles	i.	Rust
(Q)	Iron oxide	ii.	Chemical change
(R)	Dissolving common salt in water	iii.	Galvanisation
(S)	Souring of milk	iv.	Physical change

Identify a correct option.

	P	Q	R	S
(A)	iii	ii	iv	i
(B)	iv	i	ii	iii
(C)	iii	i	iv	ii
(D)	iv	ii	iii	i

- 45 Given below is a chemical reaction.



What are X and Y ?

	X	Y
(A)	Ca(OH)_2	Water
(B)	CaCO_3	Water
(C)	Water	Ca(OH)_2
(D)	CaHCO_3	CaCO_3

- 46** Match the following plants in Column I with their answers in Column II and select the correct option.

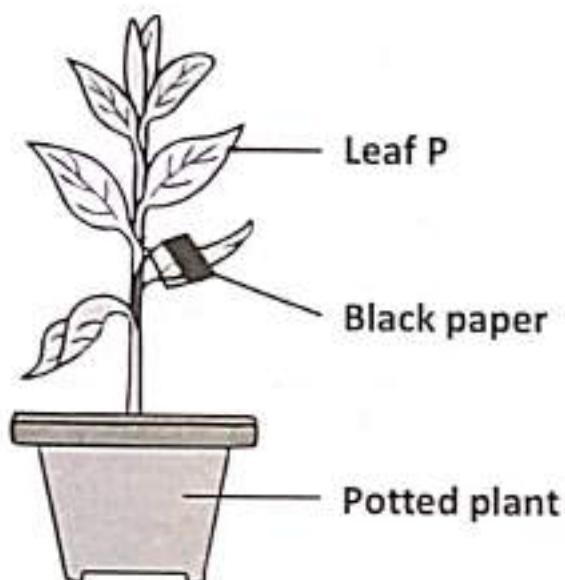
	Column I		Column II
a.	A total parasitic plant	i.	Lichens
b.	Living together for mutual benefit	ii.	Saprotrophs
c.	Another term for decomposers	iii.	Cuscuta (Dodder)
d.	An insectivorous plant	iv.	Pitcher plant

- (A) a – iii; b – i; c – ii; d – iv
 (B) a – iv; b – i; c – ii; d – iii
 (C) a – iv; b – ii; c – i; d – iii
 (D) a – iii; b – ii; c – i; d – iv

- 47** The types of animals X and Y live in polar region. Animals X huddle together to keep themselves warm whereas animals Y has strong sense of smell. Select the option which identifies X and Y.

	X	Y
(A)	Macaw	Seals
(B)	Penguins	Polar bears
(C)	Toucans	Lions
(D)	Penguins	Tigers

- 48 Anu conducted an experiment by pasting a piece of black paper around leaf P of a potted plant as shown below. She then left the potted plant under the Sun in her garden for a day.



What is the aim of her investigation ?

- (A) To determine if starch is needed by the plant to carry out photosynthesis.
- (B) To determine if light energy is needed by the plant to carry out photosynthesis.
- (C) To determine if nitrogen is needed by the plant to carry out photosynthesis.
- (D) To determine if carbon dioxide is needed by the plant to carry out photosynthesis.

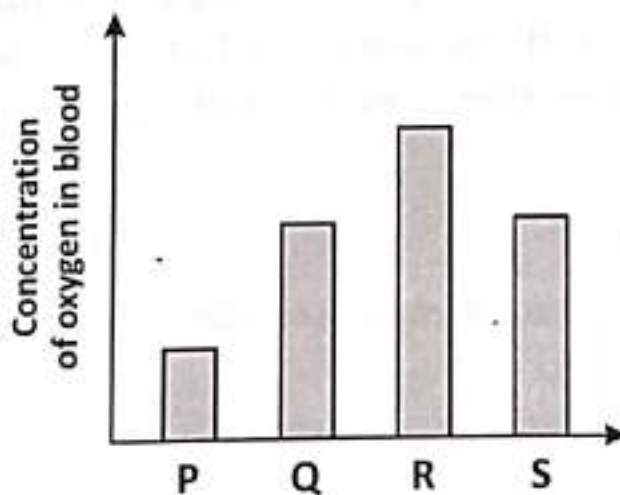
49 Read the steps involved in the process of sexual reproduction in plants.

- (i) Fusion of male and female gamete
- (ii) Formation of embryo
- (iii) Transfer of pollen grain from anther to stigma
- (iv) Formation of seed and fruit

Select the option that arranges these steps into correct sequence.

- (A) (i) → (iii) → (ii) → (iv)
- (B) (iii) → (i) → (ii) → (iv)
- (C) (i) → (iii) → (iv) → (ii)
- (D) (iii) → (ii) → (i) → (iv)

50 The given bar chart shows the concentration of oxygen in blood samples from four places in the circulatory system of a man. Which sample was taken from the pulmonary artery ?



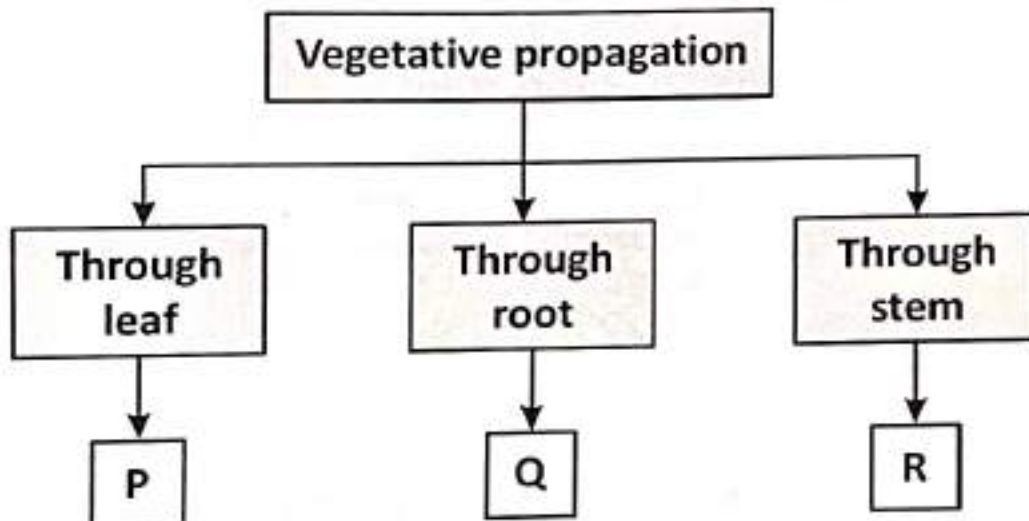
- (A) P
- (B) Q
- (C) R
- (D) S

54 Which of the following are true about capillaries ?

- (i) They are the smallest blood vessels.
- (ii) They connect arteries to veins.
- (iii) They have thin walls.

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

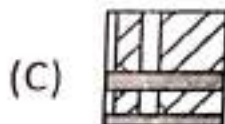
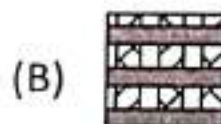
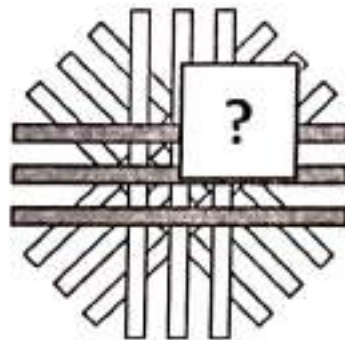
55 Study the given classification chart showing different modes of vegetative propagation.



Select the option which correctly identifies P, Q and R.

	P	Q	R
(A)	Ginger	Sweet potato	Turmeric
(B)	Grass	Potato	Dahlia
(C)	Bryophyllum	Sweet potato	Ginger
(D)	Grass	Potato	Ginger

- 56 At 6:00 pm, the hour hand and the minute hand of an analog clock are at 180 degrees with each other. After approximately how much time will they be at 180 degrees with each other again ?
- (A) 48 minutes, 40 seconds
 (B) 54 minutes, 33 seconds
 (C) 60 minutes
 (D) 65 minutes, 27 seconds
- 57 Select the missing part.

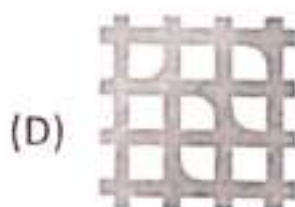
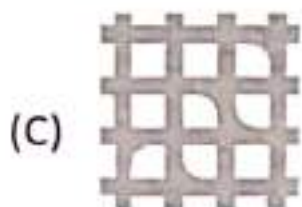
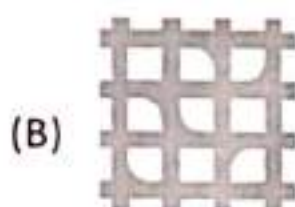
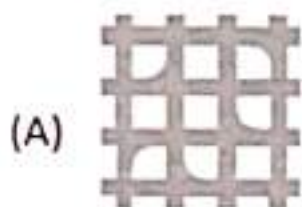
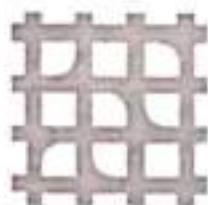


Space for rough work

58 Three girls (x , y , z) play three rounds of a game. On each round there are two winners and one loser. The girl who loses on a round has to double the number of chips that each of the other girls has by giving up some of her own chips. Each girl loses one round. At the end of three rounds, each girl has 40 chips. How many chips did each girl have at the beginning of the game?

- (A) $x = 65, y = 35, z = 20$
- (B) $x = 70, y = 30, z = 20$
- (C) $x = 90, y = 20, z = 30$
- (D) $x = 75, y = 40, z = 20$

59 Which of the options is/are simple rotation(s) of the image P ?



Space for rough work

- 60** The following question have one statement followed by two conclusions. Read and understand them carefully and then select your answer option as given below.

Statement: Fruits prices are soaring in the market.

Conclusion:

- I. Fruits are becoming a rare commodity.
 - II. There had been less rain which affected the agriculture sector.
- (A) If only I alone follows the statement
(B) If only II alone follows from the statement
(C) If both I and II follow the statement
(D) If neither I nor II follows the statement

Space for rough work
