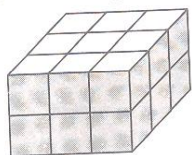


LOGICAL REASONING

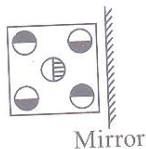
1. While going to his office P meets a man Q who is related to P, because P has R, a son, who is married to T. T is the daughter of Q. T has a daughter A. How is P related to A?
- Grandfather
 - Grandmother
 - Uncle
 - Father-in-law

2. Count the number of unit cubes in the given solid.

- 10
- 15
- 18
- 22



3. Find the CORRECT mirror image of the given figure.

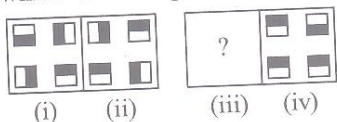


-
-
-
-

4. If the English alphabets are written in reverse order after interchanging alphabets from 'C to M' with those from 'P to Z' respectively, which letter would be midway between F and T in the new order?

- Z
- M
- N
- X

5. There is a definite relationship between figures (i) and (ii). Establish a similar relationship between figures (iii) and (iv) by selecting a suitable figure from the options which would replace the (?) in fig (iii).

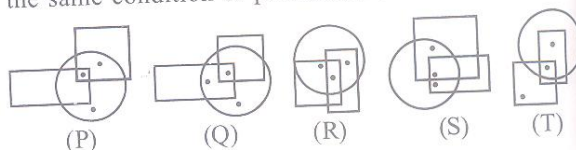


-
-
-
-

6. If in a certain code, O is written as P, A as B, M as N, S as T and so on, then how will COMPANIES be written in that code?

- DPNQBOJET
- DPOQBPIES
- DPNQBJOFT
- DPNQBOJFT

7. Select a pair of figures from the options which has the same condition of placement of dots.



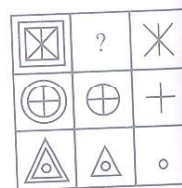
- P, Q
- Q, R
- R, S
- S, T

8. A man walks northwards. After a while he turns towards his right and walks straight then he moved little further to his left. Finally, after walking a distance of one kilometre he turns to his left again. In which direction is he moving now?

- North
- South
- East
- West

9. Which of the following figures will complete the given figure matrix?

-
-
-
-



10. A set of figures carrying certain characters is given. If the characters in each set follow a similar pattern, find the missing character.

15	
90	75

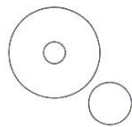
18	
108	90

21	
?	105

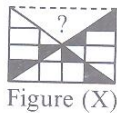
- 78
- 126
- 140
- 132

11. 583 is related to 295 in the same way as 488 is related to _____.
- A. 291
B. 497
C. 487
D. 581

12. Which of the following elements satisfies the Venn diagram given here?
- A. Judge, Thief, Criminal
B. Father, Mother, Parents
C. Teacher, College, Student
D. Polygons, Rectangles, Squares



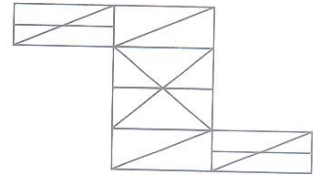
13. Which of the following parts will complete the pattern in figure (X)?



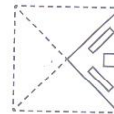
- A. B.
C. D.

14. Count the number of triangles in the given figure.

- A. 26
B. 17
C. 18
D. None of these



15. A square sheet of paper is folded in a particular manner and punched in the manner shown. Select the figure amongst the options, that would most closely resemble the unfolded form of given sheet.



- A. B.
C. D.

SCIENCE

16. Read the given statements and mark the correct option.

- (i) A metal coin of 10 gram is heavier than a feather of the same mass.
(ii) The inertia of an object depends on the size of the object.
(iii) When the mass of an object increases, the weight of the object always increases.

- A. (i) only
B. (ii) and (iii) only
C. (iii) only
D. None of these

17. An image that is not produced by light rays coming from the image but is the result of your brain's interpretations of these light rays is called a/an _____.

- A. Real image
B. Virtual image
C. Imagined image
D. None of these

18. In which of the following cases, the frictional force between the tyres of a car and the road increases?

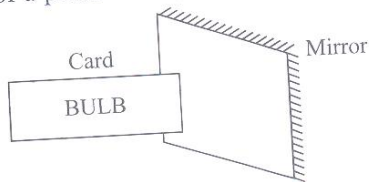
- A. When the road is wet.
B. When the speed of the car increases.

- C. When the surface area of the tyres in contact with the road increases.
D. When there are more passengers in the car.

19. Which of the following iron cores has more strength as compared to others?

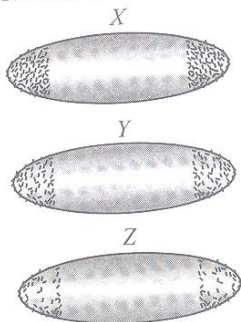
- A. Iron core
B. Iron core
C. Iron core
D. Iron core

20. A card with the word BULB written on it, is placed in front of a plane mirror, as shown in the figure.



The image of the word BULB seen in the mirror is

- A. BULB
 B. BLUB
 C. BULB
 D. BULB
21. Three magnets X, Y and Z were dipped one by one in a heap of iron filings. Figure shows the amount of the iron filings stuck to them.



The strength of these magnets will be in the order

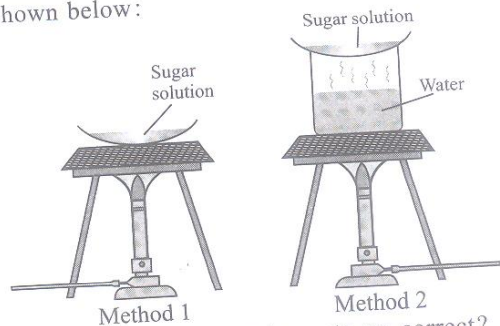
- A. $X > Y > Z$
 B. $X < Y < Z$
 C. $X = Y = Z$
 D. $X < Y > Z$
22. Consider the motion of the tip of the minute hand of a clock. In one hour
- A. The distance covered is zero
 B. The displacement is zero
 C. The average speed is zero
 D. None of these
23. The terminals of a battery are joined by a length of resistance wire. Which of the following changes will increase the current in the circuit?
- A. Connecting an identical wire in series with the first one
 B. Increasing the temperature of the wire
 C. Using a shorter wire of the same material and same thickness
 D. Using a thinner wire of the same material and same length

24. To demagnetise a magnet using the heating method, which of the following is the correct step?

- A. Heat the magnet to become red hot, and allow it to cool in the east-west direction.

- B. Heat the magnet to become red hot, and allow it to cool in the north-south direction.
 C. Heat the magnet in boiling water, and allow it to cool in the north-south direction.
 D. Both A and B.

25. Two students of Class VI have performed the same experiment 'Separation of Sugar' by different methods as shown below:



Which of the following statements are correct?

- I. Method 1 is faster than method 2.
 II. Method 2 leads to the decomposition of sugar to carbon.
 III. Method 2 is more appropriate than method 1.
 IV. Method 2 is slow but pure sugar is obtained without getting decomposed.
- A. I and II
 B. I, III and IV
 C. III and IV
 D. All of these

26. Sunita classified different materials based on their properties. Which of the following sets are correctly matched?

Set	Hard	Opaque	Floats in water	Insoluble in water
I	Sponge	Butter paper	Glass marble	Honey
II	Steel	Wooden board	Ice	Mustard oil
III	Iron nail	Glass	Grass	Sugar candy
IV	Lump of sugar	Thermocol	Hair	Glass powder

- A. II and IV
 B. I and II
 C. III and IV
 D. All of these

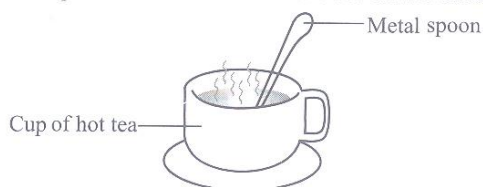
27. Reema's mother has done some preparations for her 'Birthday Party'. Which of the following changes can be reversed?

- A. Baking cake in an oven
 B. Burning of a candle
 C. Rolling a ball of dough and baking it to make *kulcha*
 D. Blowing of a balloon

28. The transmission lines should not be stretched more tightly between the towers because _____.
- Expansion takes place in winter
 - Expansion takes place in summer and contraction takes place in winter
 - Expansion and contraction do not depend on temperature
 - Contraction takes place in summer

29. Which of the following items has definite volume and shape?
- Water vapour
 - Milk
 - Aluminium foil
 - Oxygen

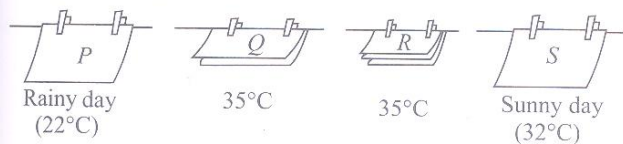
30. Shreya made a cup of hot tea and put a metal spoon in the cup so that the tea would cool down faster.



Which of the following statements best describes the cooling of tea faster?

- The metal spoon absorbs the coldness from the surroundings and transfers the coldness to the hot tea.
 - The metal spoon absorbs heat from the hot tea and transfers the heat to the surroundings.
 - The metal spoon absorbs heat from the cup and transfers the heat to the surroundings.
 - None of these
31. Which of the following mixtures cannot be separated by the method of winnowing?
- Kidney beans and chickpeas
 - Potato wafers and biscuits
 - Rice flakes and corns
 - Sawdust and sand

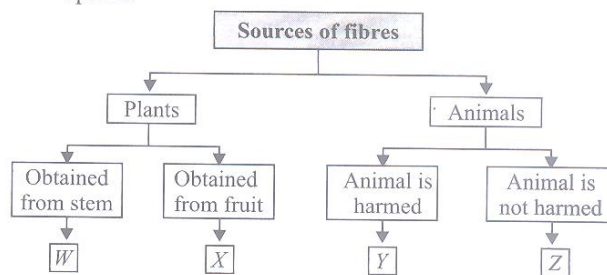
32. Four identical towels were hung out to dry under different conditions.



Arrange them in order, beginning with the towel that would take the longest time to dry.

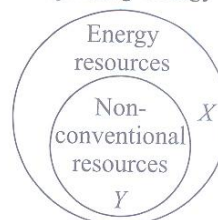
- P, Q, R, S
- P, R, Q, S
- R, P, Q, S
- S, Q, R, P

33. Refer to the given flowchart and select the correct option.



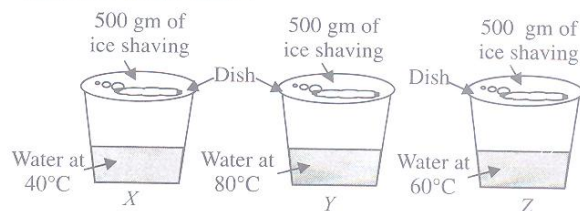
- X – Flax, Y – Silk
 - W – Cotton, Y – Silk
 - W – Flax, Z – Wool
 - X – Jute, Z – Wool
34. What is the main reason that some places on Earth are warmer than others?
- Sun is closer to some places than others.
 - Sun stays above the horizon 24 hours a day at some places.
 - The rays of the sun are more direct at some places and more slanting at others.
 - Some places experience warm seasons because of underground heat.

35. Refer to the given Venn diagram and select the correct option regarding energy resources.



- | | |
|----------|------------------|
| X | Y |
| A. Coal | Petroleum |
| B. Water | Petroleum |
| C. Coal | Solar radiations |
| D. Wind | Petroleum |

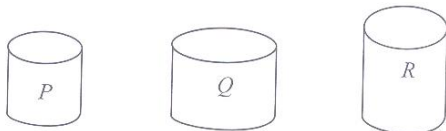
36. Jatin prepared the following set-ups to 'make rain'. The same amount of water was used for each set-up. Study them carefully to find out which set-up will form the most 'rain'?



- X
- Y
- Z
- None of these

37. Which of the following joints is present between thigh bone and shin bone?
- Hinge joint
 - Pivot joint
 - Fixed joint
 - Ball and socket joint

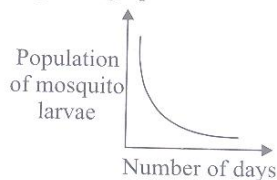
38. Ritu has 500 cm^3 of oxygen in a small tank and she wants to transfer all of it to another container. Which of the following containers would be able to hold all the oxygen gas?



Volume = 250 cm^3 Volume = 400 cm^3 Volume = 550 cm^3

- R only
- Q and R
- P, Q and R
- None of these

39. Refer to the given graph.



What can be the possible reason for the change in the population of mosquito larvae in the pond?

- There is a layer of oil over pond.
 - New fish are introduced into the pond.
 - There is a period of dry weather.
 - Many of the mosquito larvae have changed into mosquitoes.
- (i) and (iii)
 - (ii) and (iv)
 - (i), (ii) and (iii)
 - (i), (ii), (iii) and (iv)

40. Shashank wanted to test the level of pollution in two locations. He plucked some leaves from plants in a Nature Reserve and some leaves from plants near a factory. He then soaked them in two beakers containing Solution Y. The colour of Solution Y changed, according to the level of pollution in the area.

In order to carry out the experiment, which of the following variables should Shashank keep the same to ensure a fair test?

- The type of leaves
- The amount of Solution Y added
- The number of leaves in each beaker
- The place from where the leaves were plucked

- (iii) only
- (i), (ii) and (iii)
- (ii), (iii) and (iv)
- (i), (ii), (iii) and (iv)

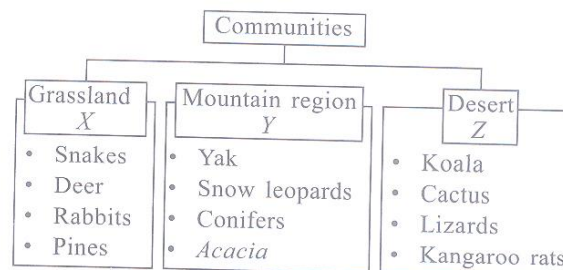
41. Which of the following statements is incorrect for the given food item?



Kheer bowl

- The ingredients used to prepare this food are obtained from both plant and animal sources.
 - The major nutrients in this food are carbohydrates and proteins.
 - This food is also a source of vitamin C.
 - The ingredient sourced from plants is actually a seed.
- (i) and (ii)
 - (iii) only
 - (ii) and (iv)
 - None of these

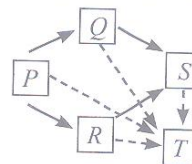
42. Refer to the given chart.



Which of the organisms have been grouped incorrectly?

- | | X | Y | Z |
|----|---------|--------|---------|
| A. | Snakes | Acacia | Lizards |
| B. | Pines | Acacia | Koala |
| C. | Rabbits | Yak | Lizards |
| D. | Deer | Yak | Koala |

43. Study the food web shown below.



How is organism P in the food web different from the organisms Q, R, S and T?

- It causes decomposition.
- It feeds on plants.
- It feeds on animals.
- It can photosynthesize.

44. A science teacher took her students out for a practical activity to teach them more about the aquatic plants. She showed the students an underwater leaf and told that underwater leaves do not have waxy waterproof coating. She asked them the reason for the same. Given below are the replies of the students :

Student P : Unwaxed leaf surface can float easily.

Student Q : Unwaxed leaf surface facilitates gaseous exchange between the plant and water.

Student R : Unwaxed leaf surface can reduce transpiration.

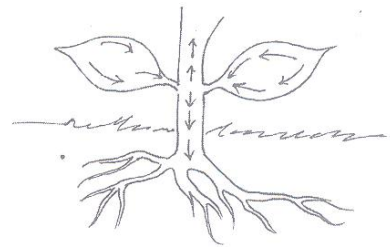
Student S : Unwaxed leaf surface can transport water.

Which of these students correctly replied?

- A. Student S
B. Student R

- C. Student P
D. Student Q

45.

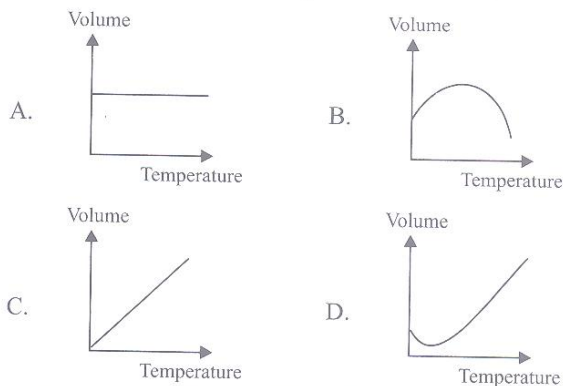


The arrows in the diagram above show the movement of _____.

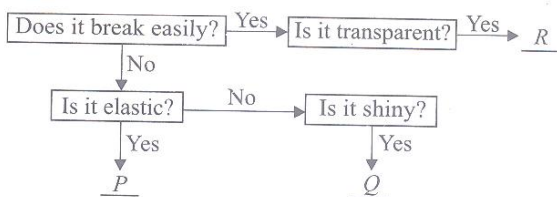
- A. Air in the plant
B. Food to all parts of the plant
C. Water to all parts of the plant
D. Carbon dioxide to all parts of the plant

ACHIEVERS SECTION

46. Which of the following graphs correctly shows the change in volume with temperature of water?



47. Study the given flowchart carefully and fill in the blanks.



- | | <i>P</i> | <i>Q</i> | <i>R</i> |
|----|---------------|---------------|---------------|
| A. | Rubber band | Steel | Electric bulb |
| B. | Electric bulb | Rubber band | Steel |
| C. | Electric bulb | Steel | Rubber band |
| D. | Steel | Electric bulb | Rubber band |

48. Read the following passage carefully.

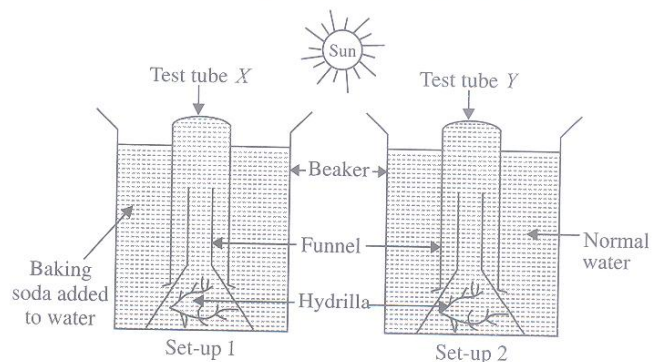
P is found abundantly in cod liver oil and is important for visual efficiency. *Q* is sourced from amla, tomato

and citrus fruits and its deficiency may cause wounds to take longer time for healing. *R* is formed in our body in presence of sunlight and its deficiency in toddlers may cause deformity of legs.

Now select the incorrect option regarding this.

- A. *P* can be found in spinach but not *R*.
B. In absence of *R* our body will show calcium deficiency even if it is abundant in our food.
C. *Q* is also called B-complex as many of its varieties are available.
D. *P* cannot be dissolved in water.

49. Beena sets up two experiments, as shown in the diagram below. She placed both the set-ups in sunlight for 9 hours. On noting down her observations for both set-ups she found that there was more oxygen collected in test tube *X* as compared to test tube *Y*. What conclusion could she best draw from this experiment?



- A. The rate of photosynthesis decreases when there is more carbon dioxide.
B. Baking soda is required for photosynthesis.

- C. Carbon dioxide is required by the plant for photosynthesis.
- D. The rate of photosynthesis increases when there is more carbon dioxide.

50. Refer to the given key carefully and identify fabrics *P*, *Q*, *R* and *S*.

1. (i) Fabric made from natural fibres ---- Go to 2
 (ii) Fabric made from man-made fibres ----- Go to 3

2. (i) Fibre obtained from plants -----

<i>P</i>

 (ii) Fibre obtained from animals -----

<i>Q</i>

3. (i) Shrinks away from flame on burning ---

<i>R</i>

 (ii) Leaves hard beads on burning -----

<i>S</i>

	<i>P</i>	<i>Q</i>	<i>R</i>	<i>S</i>
A.	Cotton	Polyester	Silk	Nylon
B.	Acrylic	Wool	Rayon	Nylon
C.	Cotton	Wool	Silk	Polyester
D.	Cotton	Silk	Nylon	Polyester

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