



**Somalwar Academy's
Annasaheb Somalwar Memorial Initiative
of Rewarding Excellence**

A SEARCH OF INNATE TALENT

Class IX

Round II – Major Test

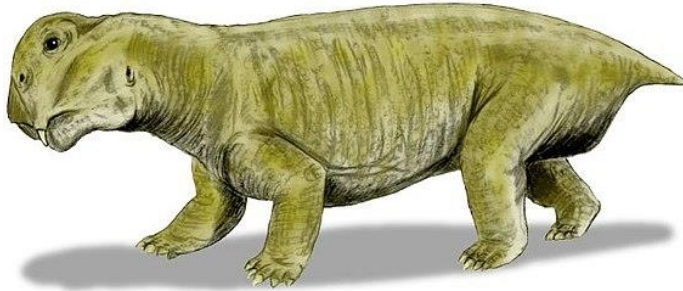
Max Marks : 100

Duration : 2 hrs.

General Instructions :

- i) All questions are compulsory
- ii) Each question carries 2 Marks
- iii) There is no negative marking
- iv) Please read and follow the instructions on OMR sheets while solving this test

- 1) **The diagram below represents a Lystrosaurus. He was an herbivore that lived on land about 250 million years ago. Fossils of this dinosaur have been discovered on the widely separated continents of Africa and South America.**

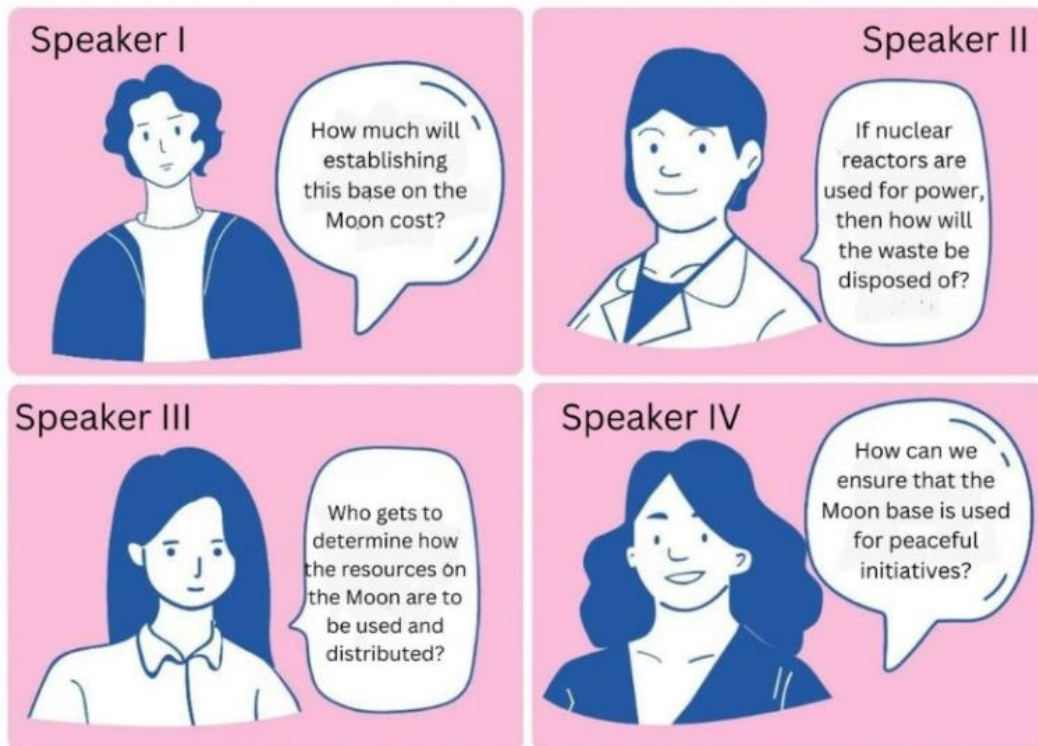


Which statement best explains why Lystrosaurus fossils are found on these two continents?

- (a) This dinosaur could fly to distant locations.
 - (b) Both continents were once joined together.**
 - (c) Predators transported the remains of this dinosaur between continents.
 - (d) Glaciers transported the fossils to the two continents.
- 2) **If you were to look at the rainbow with red glasses, which two of the colours V-I-B-G-Y-O-R would you expect to turn fully black?**
- (a) Red, green, violet
 - (b) Blue, Green, Yellow
 - (c) Blue, Green**
 - (d) None of the 7 colours

3) Which two speakers below ask questions that reflect an economic perspective?

The year 2050 is the target date for the creation of a base on the Moon.



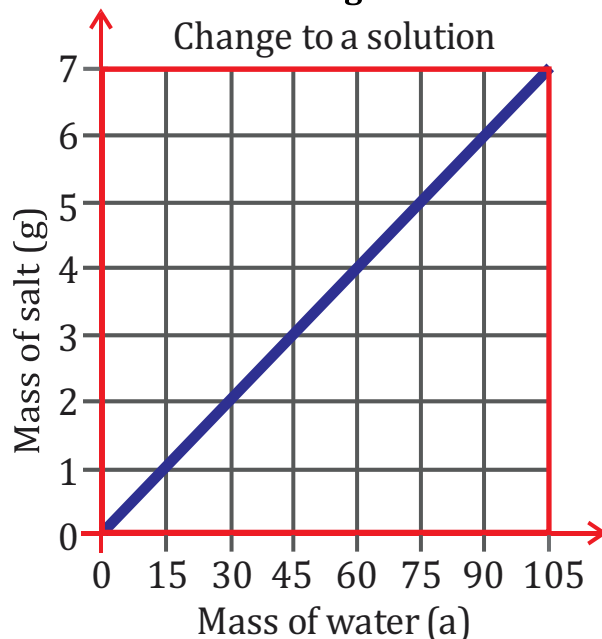
(a) Speakers I and III

(b) Speakers I and IV

(c) Speakers II and III

(d) Speakers II and IV

4) The graph shows the relationship between two characteristics of a saltwater solution. Which ratio describes the changes in these two characteristics?



(a) 1:7

(b) 90:7

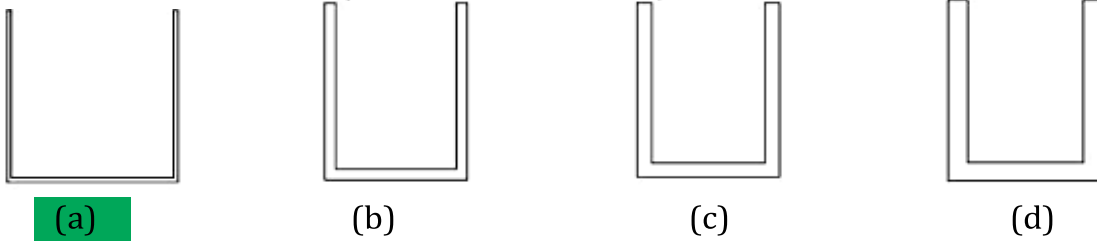
(c) 1:15

(d) 105:15

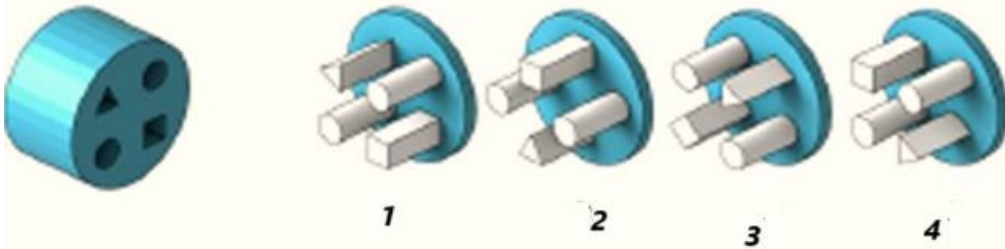
5) In a Camera, the shutter speed is one of the parameters by which exposure of the image can be controlled. How does shutter speed control exposure?

- (a) By increasing the size of the opening through which light enters the camera.
- (b) By increasing sensitivity of the image sensor.
- (c) By increasing the time for light to enter the camera.
- (d) By increasing the number of pixels in the image.

6) Ramesh has to pour out boiling hot water into a glass. He has four glasses of the same size but of different THICKNESSES. Which of them is LEAST LIKELY to break, if hot water is poured into it?

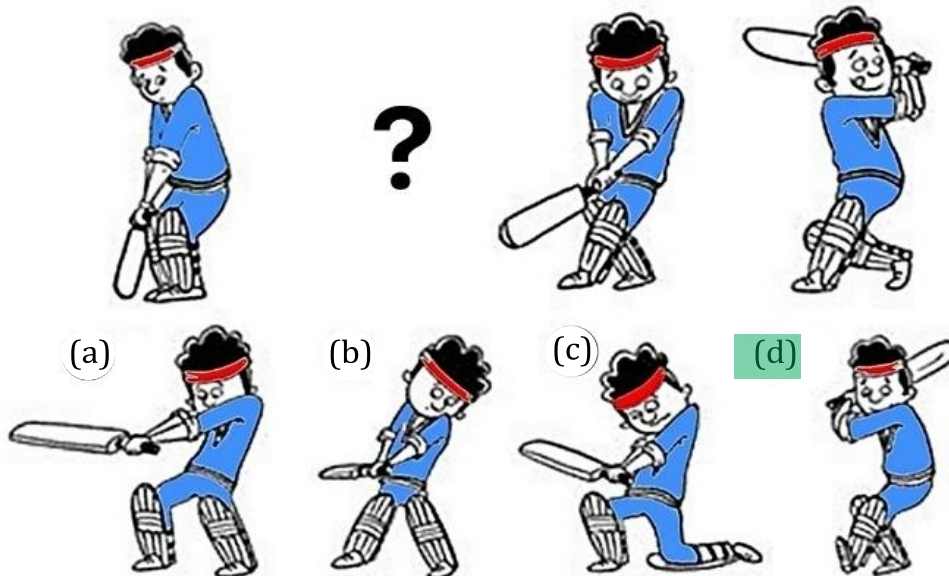


7) Shown on the left is a socket with four holes in it. Which of the plugs will fit perfectly in this socket?

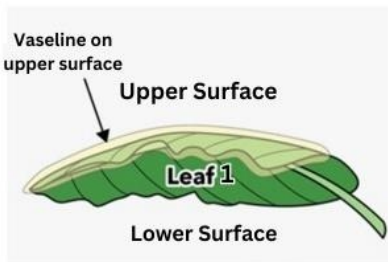
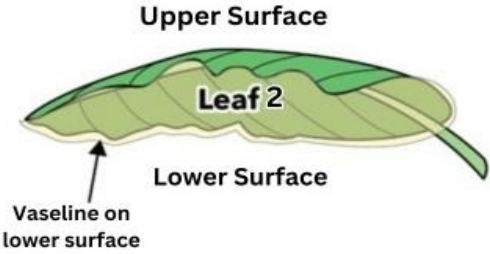


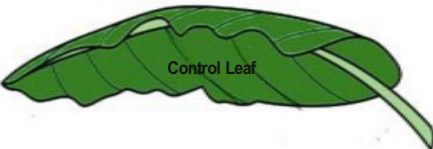
- (a) 2 and 3
- (b) 1 and 4
- (c) 2 and 4
- (d) 1 and 3

8) Given below is a sequence of drawings from the animation of a cricket batsman performing a pull shot, with one missing drawing represented by a question mark. Which option would best replace the question mark?

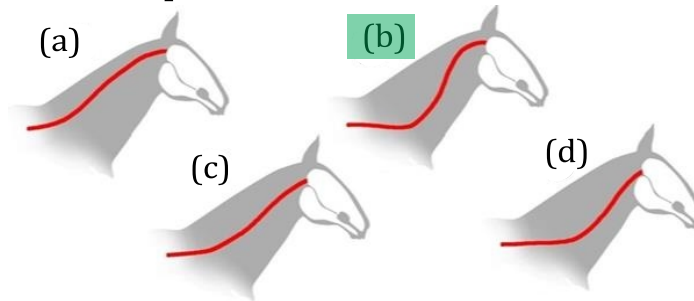


- 9) In groundnut plant Vaseline was applied on the upper surface of leaf - 1 and on the lower surface of leaf - 2. Vaseline was not applied to the control leaf. The plant was deliberately not watered for several days. Which leaf will dry up last?

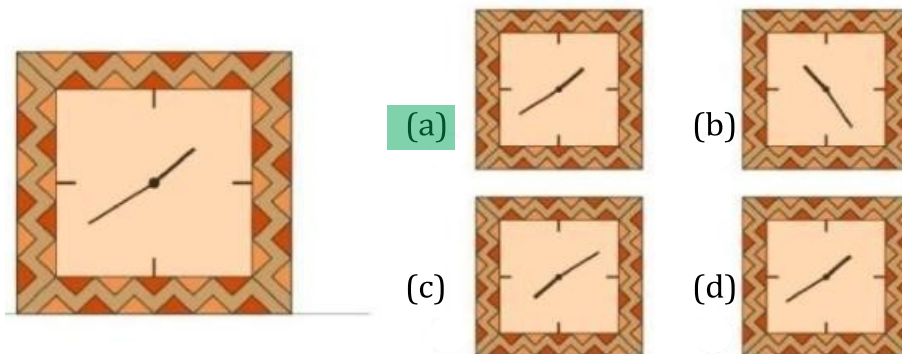
(a)  (b) 

(c)  (d) All the leaves will dry up simultaneously

- 10) The figures show simplified shapes of the neck portion of the vertebral column of a horse. Which of the options is most correct?



- 11) A naughty kid plays with a clock kept on a table as shown below. She changes the hour and minute hands clockwise adding 8 hours and 45 minutes to the time and places the clock by rotating 270° anti-clock wise. Identify the option that shows the modified time?



- 12) Hundred bricks are to be kept at the 10 mts height. Mohan does this work in one hour. But Kasim takes two hours to do the same work. What can you say about their work?

- (a) Work done by both is equal
 (b) Mohan has done more work than Kasim
 (c) Kasim has done more work than Mohan
 (d) Can not say

13) Which of the statement(s) is/are TRUE for the photos given below?



(1) There are only two mammals

(2) There are only two reptiles

(3) There are only two fishes

(4) There is only one bird

Options :-

(a) 1 and 2

(b) 2 and 3

(c) 2 and 4

(d) 1 and 4

14) A student noted down the following traits of two kinds of fabric that he examined.

Fabric 1: Takes longer to dry; thin and soft but coarse texture; wrinkles easily

Fabric 2: Dries quickly; thick, soft and smooth texture; does not crease.

Based on this, which of the following best fits the description of fabrics 1 and 2 ?

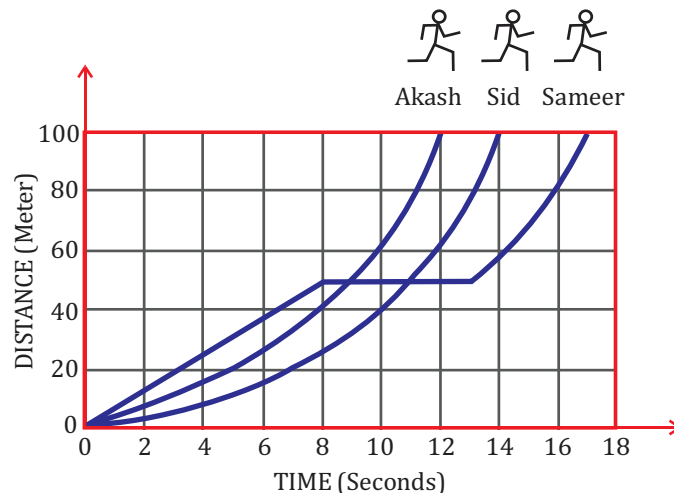
(a) Fabric 1: Wool, Fabric 2: Jute

(b) Fabric 1: Silk, Fabric 2: Cotton

(c) Fabric 1: Cotton, Fabric 2: Nylon

(d) Fabric 1: Acrylic, Fabric 2: Cotton

15) Look at the graph below. It shows how three runners ran a 100 -meter race. Which runner won the race?



(a) Akash

(b) Sid

(c) Sameer

(d) there was tie between all of the three runners

- 16) Prabhu had Rs 5 to buy milk, bread, and eggs. When he got to the shop, he found that the prices were as shown below:



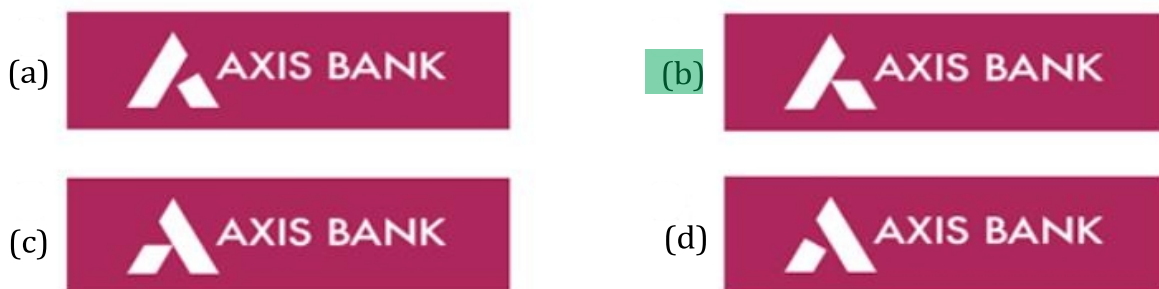
At which of these times would it make sense to use estimates rather than exact numbers?

- (a) When the clerk counted Prabhu's change
(b) When the clerk entered each amount into the cash register
(c) When Prabhu was told how much he owed
(d) When Prabhu tried to decide whether Rs 5 was enough money.
- 17) If water in a lake were to behave like other liquids, then in extremely cold weather it would freeze
- (a) from top to bottom (b) from bottom to top
(c) simultaneously throughout the depth
(d) first on the surface, bottom and sides and then in the interior
- 18) Count the number of people with a moustache in the picture below:

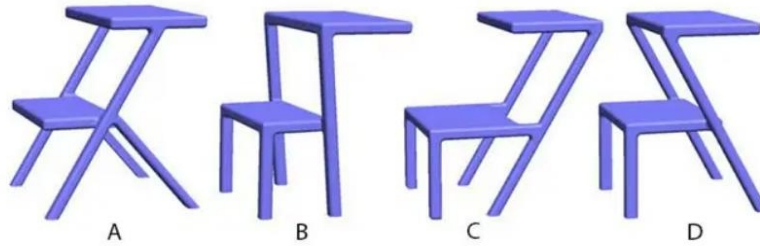


- (a) 12 (b) 16 (c) 18 (d) 22

- 19) Select the correct logo



- 20) Shown below are different forms for a step-stool. Which of the forms will remain stable when a person is standing on the top step?



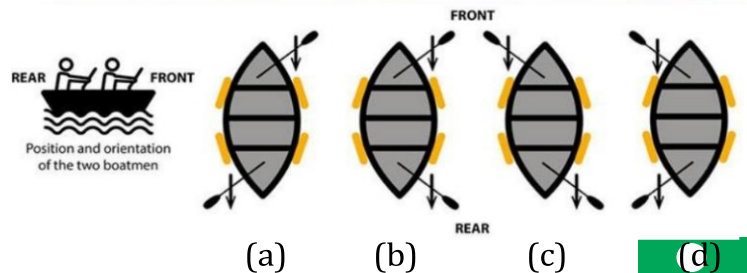
(a) A & D

(b) C and A

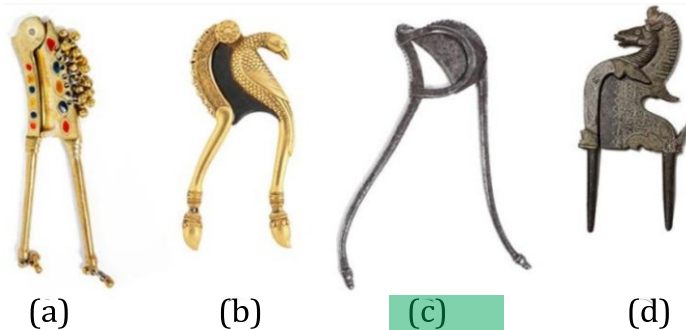
(c) B and C

(d) C and D

- 21) A boat is moving on the river and following the path as shown by the dashed line. Both the boatmen are facing front and rafting with equal force in the directions shown by the arrows in the options. Which of the options will help the boat to take a right turn?



- 22) Which betel nut cutter will require less force to be applied to cut a betel nut? Consider the hinge points to be at the same line.



- 23) Shizuka is studying food production in bean plants. She measures food production by the amount of starch produced. She notes that she can change the amount of light, the amount of carbon dioxide, and the amount of water that plants receive. What is a testable hypothesis that Shizuka could study in this investigation?

- (a) The more light a bean plant receives the more carbon dioxide it will produce
 (b) The more starch a bean plant produces the more light it needs.
 (c) The more water a bean plant gets the more carbon dioxide it needs.
 (d) The more carbon dioxide a bean plant gets the more starch it produces.

- 24) Stree prepared the following experiment to find out if the number of seeds affect the growth of the seeds. She used the same type of seeds for the experiment.



Pot A
50ml of water
added daily



Pot B
100ml of water
added daily

Which of the following statements explain why her experiment was not fair?

A : The pots had different number of seeds.

B: The sizes of the pots were the same.

C: More water was added to pot B than pot A.

(a) A only

(b) C only

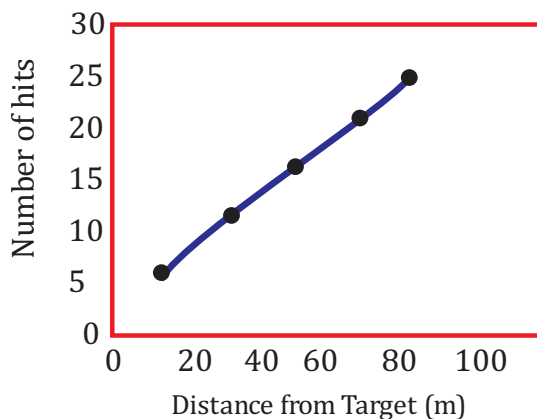
(c) A and C only

(d) A and B only

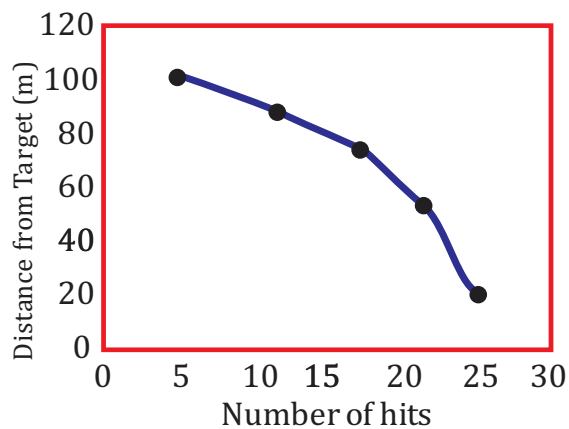
- 25) Twenty-five shots are fired at a target from several distances. The table below shows the number of “hits” in 25 shots at each distance.

Distance from target (m)	Number of Hits
5	25
15	10
25	10
50	5
100	2

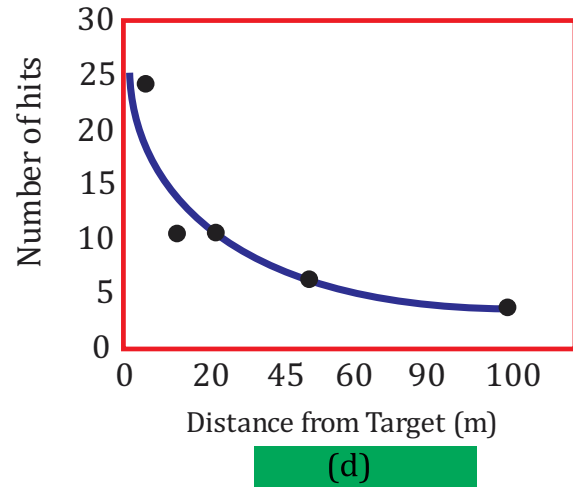
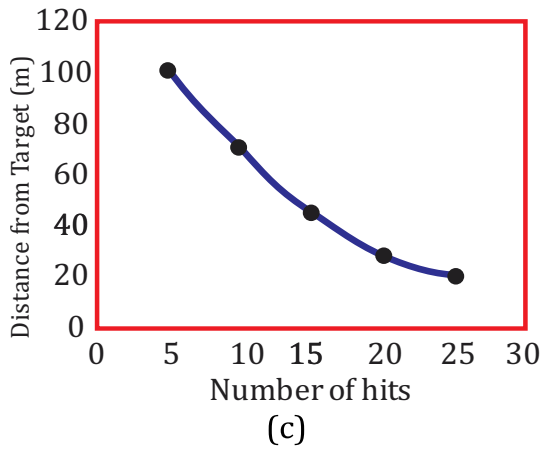
Which graph represents the data?



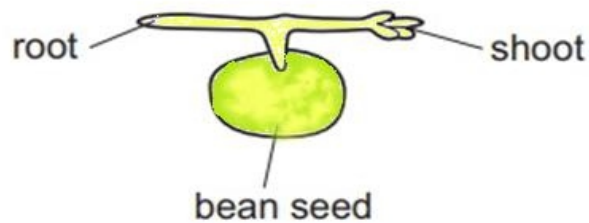
(a)



(b)



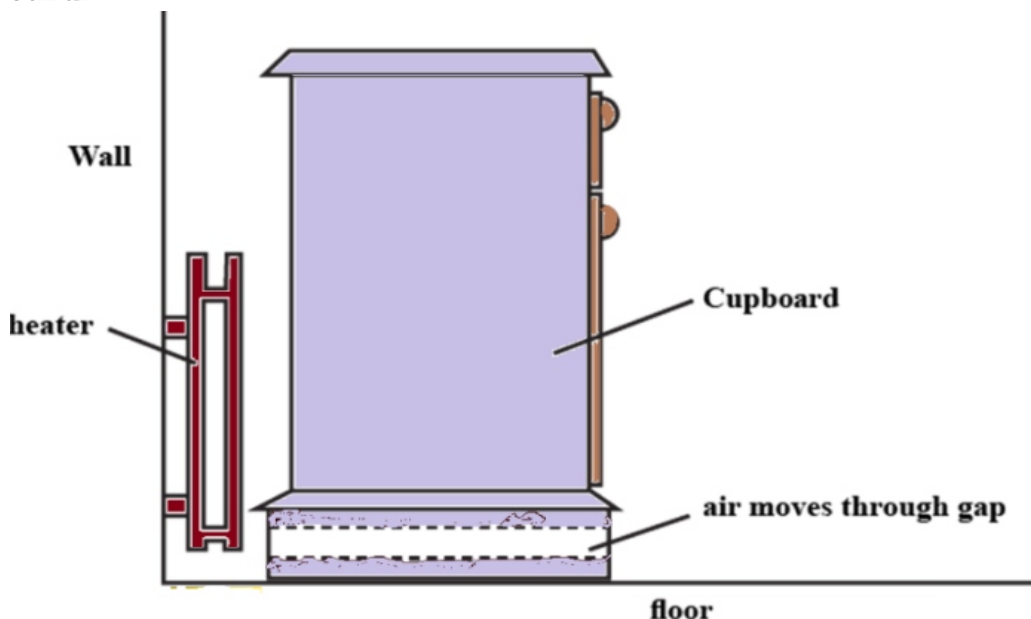
26) A growing seedling was held in position as shown in the diagram.



It was then placed in the dark for 3 days. Which diagram shows the shape of the root and the shoot of the same seedling after 3 days?



27) A cupboard is placed in front of a heater. Air can move through a gap under the cupboard.

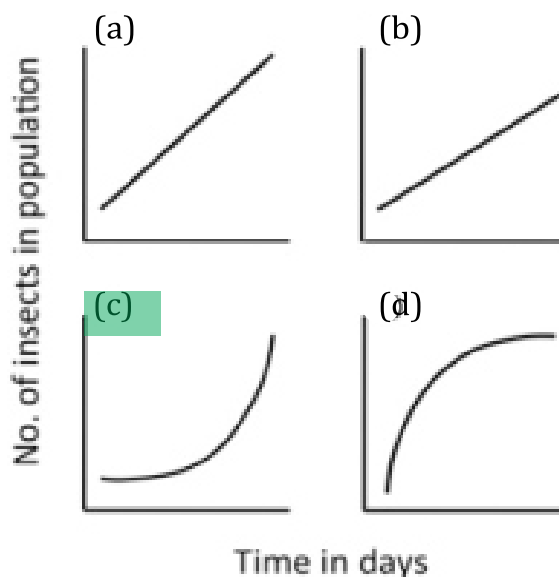


Which row describes the temperature, and the direction of movement of the air in the gap?

	Air temperature	Air direction
(a)	Cool	away from the heater
(b)	Cool	towards the heater
(c)	warm	away from the heater
(d)	warm	towards the heater

28) While growing vegetables in your backyard, you noticed a particular kind of insect eating your plants. You took a rough count (see data below) of the insect population over time. Which graph shows the best representation of your data?

Time (days)	Insect Population (number)
2	7
4	16
8	60
10	123



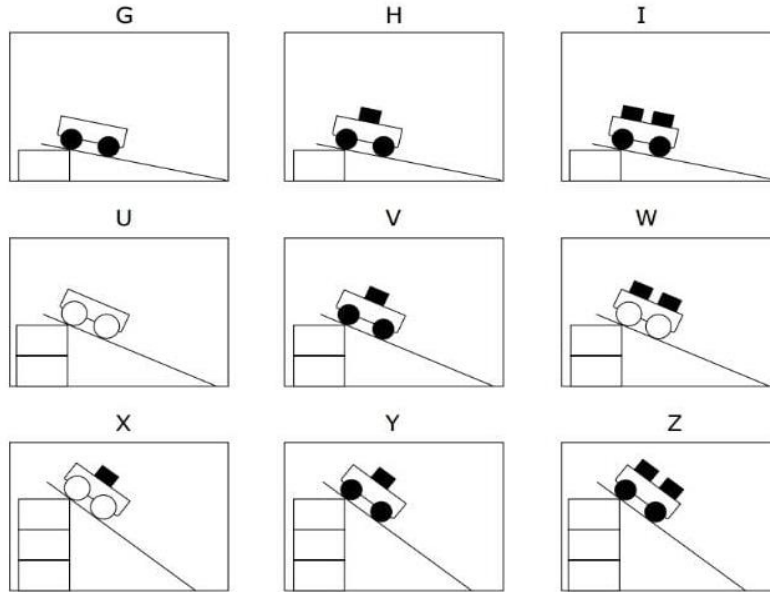
29) The weight of a closed jar is W while the flies inside it are flying around. What will be the weight of the jar if the flies settle down inside the jar?



- (a) Equal to W
- (c) More than W

- (b) Less than W
- (d) Can't be determined

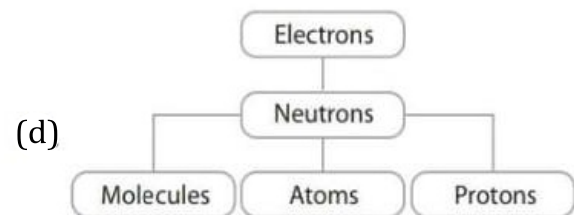
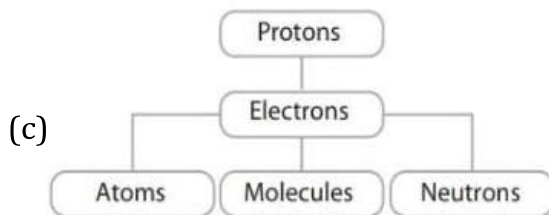
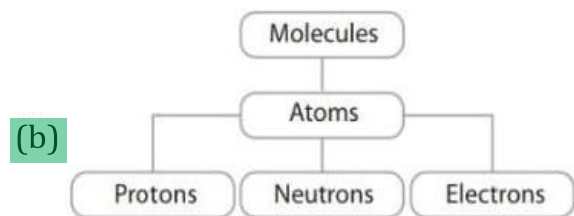
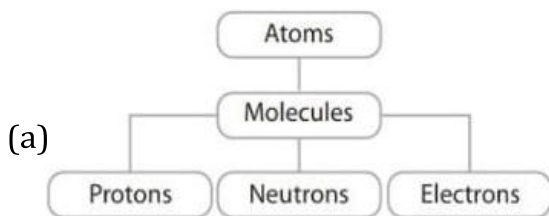
- 30) The diagrams show nine different trials Jethalal carried out using carts with wheels of two different sizes and different numbers of blocks of equal mass. He used the same ramp for all trials, starting the carts from different heights.



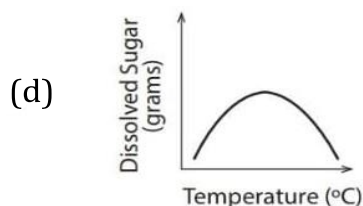
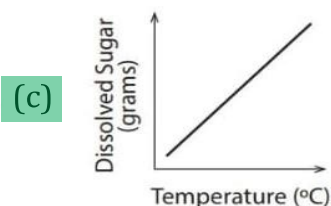
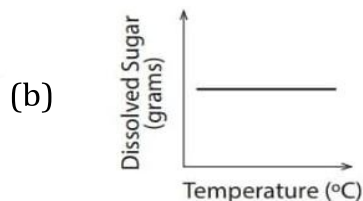
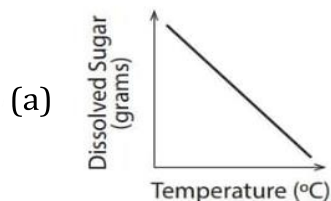
He wants to test this idea: The higher the ramp is placed, the faster the cart will travel at the bottom of the ramp. Which three trials should he compare?

- (a) G, H and I (b) I, W and Z (c) I, V and X (d) H, V and Y

- 31) Which of these diagrams best represents the structure of matter, starting with the more complex particles at the top and ending with the more fundamental particles at the bottom?



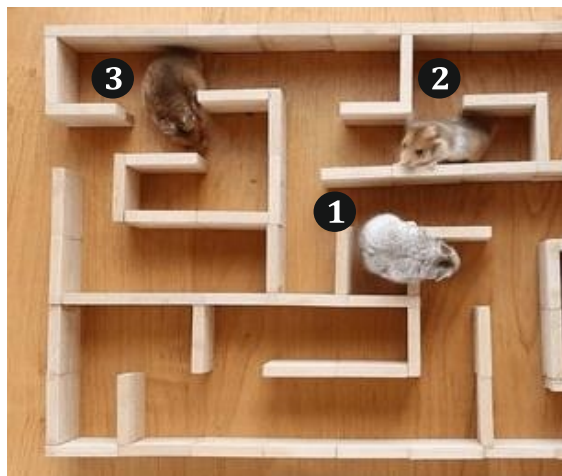
- 32) Amit did an experiment to investigate the effect of temperature on the solubility of sugar in water by measuring the amount of sugar that would dissolve in 1 litre of water at different temperatures. He then plotted his results. Which of the following is likely to be the graph showing Amit's results?



33) A closed bottle containing water at room temperature was taken to the Moon and then the lid is opened. The water will-

- (a) freeze (b) boil (c) decompose into oxygen and hydrogen (d) not change at all

34) A researcher placed three mice in a maze and recorded the time each mouse took to complete the maze. Which argument is best supported by the data collected by the researcher?



- (a) More practice resulted in faster maze completion times for each mouse.
 (b) More practice had no effect on the maze completion times for each mouse.
 (c) More practice had the greatest effect on Mouse 3's final maze completion time.
 (d) More practice reduced each mouse's maze completion time by more than 10 seconds.

35) Razia read out about various systems of the human body and claimed that the digestive system alone can pass nutrients to every cell of the body. Is the claim made by the Razia, correct?

- (a) Yes; the stomach of the digestive systems helps in the delivery of nutrients to all body cells.

(b) Yes; the small intestine of the digestive system absorbs the nutrients from the food and delivers to it all cells.

(c) No; the digestive system passes nutrients into the blood, which is then delivered to body cells through the circulatory system.

(d) No; the heart is a component of the circulatory system, which directly absorbs nutrients from the stomach and delivers to all body cells.

36) If two metallic balls are placed in space where the weight of balls is zero, then

(a) They move towards each other.

(b) they repel each other

(c) They remain in their position.

(d) We cannot say anything about their status.

37) Two studies estimate the mean caffeine content of an energy drink. Each study uses the same test on a random sample of the energy drink. Study 1 uses 25 bottles, and study 2 uses 100 bottles. Which statement is true?

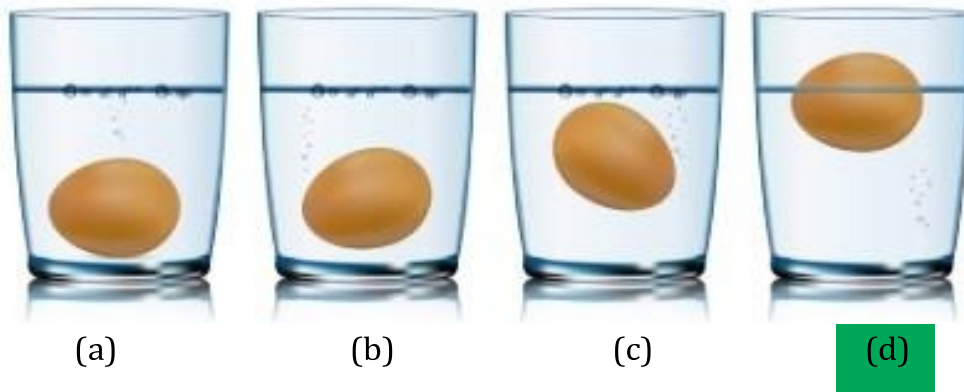
(a) The estimate of the actual mean caffeine content from each study will be equally uncertain.

(b) The uncertainty in the estimate of the actual mean caffeine content will be smaller in study 1 than in study 2.

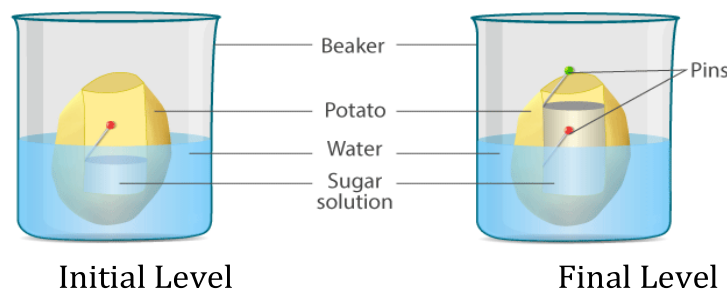
(c) The uncertainty in the estimate of the actual mean caffeine content will be larger in study 1 than in study 2.

(d) None of the above

38) Suraj wants to check if the egg is spoiled. He drops it into a glass water. Which of the following options best describes the spoiled egg?

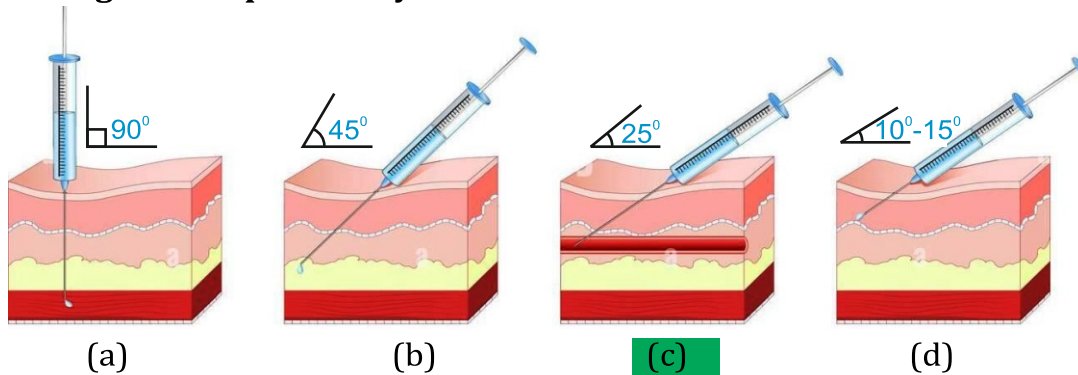


39) Observe the experimental set up shown in the given figure and choose the correct option. Note that the potato is peeled before the experiment.



	Movement of water	Concentration of sugar solution	Size of potato
(a)	Water enters potato	increases	increases
(b)	Water leaves potato	remain unchanged	decreases
(c)	Water enters potato	decreases	remain same
(d)	Water leaves potato	increases	remain same

40) The angle at which an injection is given can affect how much pain you feel. At which angle is the pain likely to be the least?



41) Identify the correct correlation :

High Density : : Black hole : : Less density : _____

- (a) White dwarf (b) Neutron star (c) Red giant star (d) Sun

42) If man has no spine, which process is not possible for man ?

- (a) unable to walk (b) unable to stand straight
(c) spinal cord would have been un-protected (d) all above

43) All phenomenon related to weather (i.e. cloud formation, storm) takes place in troposphere, because _____

- (a) in this layer air is rare
(b) maximum water vapour of the atmosphere is in this layer
(c) this layer is nearest to earth
(d) Ozone is present in this layer.

44) If same volume of river water and sea water is heated with the same amount of heat which water will boil earlier?

- (a) River water (b) sea water (c) Both at the same time (d) Not certain

45) From the given examples which one has less elasticity ?

(P)



(Q)



(R)



(a) P

(c) R

(b) Q

(d) All examples have same elasticity.

46) The saplings of peepal tree are grown in the cracks of wall because _____



- (a) Countless seeds fall out of rippen fruits of these trees.
- (b) These fruits are favourite food of birds.
- (c) Droppings of birds fall into the wall cracks.**
- (d) They grow because of the lime in the cracks in the wall.

47) Tug of war was going on in team 'A' and 'B'. The rope slipped from the hands of team 'A' and children of team 'B' fell down because _____



TEAM (A)

TEAM (B)

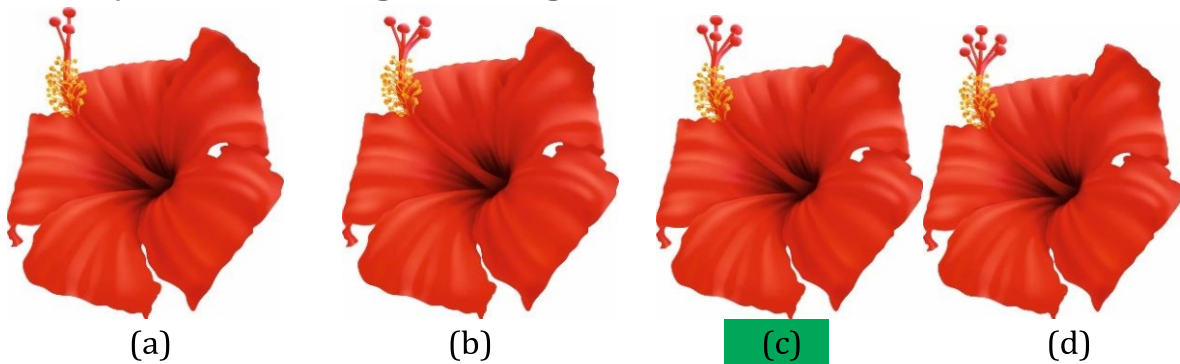
- (a) Team 'A' children pushed team 'B' children
- (b) Team 'B' children pushed team 'A' children
- (c) Team 'A' lost its force
- (d) Team 'B' lost its force**

48) When a doctor does pulse diagnosis. Which of the following function is related to it ?



- (a) Contraction of lungs
- (b) Contraction of heart**
- (c) Expansion of lungs
- (d) Expansion of heart

49) Identify the correct diagram of stigma of Hibiscus.



50) A study of auto efficiency is done. The hypothesis tested is that a gasoline additive will increase auto efficiency. Five identical cars each receive the same amount of gasoline but different amounts of Additive A. They travel the same track until they run out of gasoline. The research team records the number of miles each car travels. How is auto efficiency measured in this study?

- (a) The time each car runs out of gasoline.
- (b) The distance each car travels.
- (c) The amount of gasoline used.
- (d) The amount of Additive A used.

* * * * *

Feedback Section

51) Please select the most appropriate option according to you and provide us your valuable feedback about the test paper.

- (a) Interesting but Difficult
- (b) Interesting and Easy
- (c) Easy but Boring
- (d) Difficult and Boring