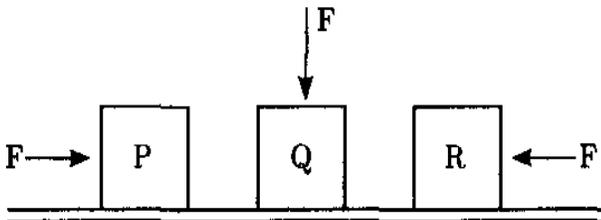


Year 2016 Test Paper

- Q. 1. Gulmohar tree is at its peak of blossom, filled with red flowers. Then which month it must be?
 (A) December (B) January
 (C) June (D) September
- Q. 2. Artificial satellite is not useful for which of the following tasks?
 (A) To measure the forests on earth
 (B) To transport goods
 (V) To telecast TV programmes
 (D) To obtain information about weather
- Q. 3. Public Health Department appeals to observe 'A Dry Day' once in a week because _____.
 (A) to prevent mosquito reproduction
 (B) possibility of polluted water supply
 (C) of water shortage
 (D) to make the area disinfectant
- Q. 4. As shown in the diagram erasers P, Q, R are placed on the floor. If force 'F' is applied what will be its effect on all the three erasers?



- (A) Erasers P and Q will move and R will change its shape
 (B) Erasers R and Q will move and P will change its shape
 (C) Erasers P and R will move and Q will change its shape
 (D) All three erasers will move and will change their shape
- Q. 5. Main ingredients of Indian food are made up of _____.
 (A) legumes (B) meat
 (C) cereals (D) vegetables
- Q. 6. Select the correct order of the cities, namely Kolkata, Delhi, Mumbai and Shillong as per the time of sunrise on the same day.
 (A) Kolkata, Mumbai, Delhi, Shillong
 (B) Shillong, Kolkata, Delhi, Mumbai
 (C) Mumbai, Delhi, Kolkata, Shillong
 (D) Delhi, Kolkata, Mumbai, Shillong
- Q. 7. Which of the following characteristic of a surface help to form an image?
 (A) Hardness (B) Transparency
 (C) Opacity (D) Smoothness
- Q. 8. What is the shape of galaxy Mandakini?

- (A) Spiral (B) Elliptical
 (C) Barred Spiral (D) Irregular
- Q. 9. For avoiding pollution, which method of disposing wet garbage should be followed?
 (A) To throw garbage on the dumping ground.
 (B) To burn the garbage.
 (C) To throw the garbage in stream water.
 (D) To put earthworms in the garbage.
- Q. 10. Mixing of inhaled Oxygen in the blood and exhaling Carbon dioxide from the blood of all parts of body. These two actions take place in which organ?
 (A) Lungs (B) Windpipe/Trachea
 (C) Air-sacs (D) Diaphragm
- Q. 11. Why do clouds float in the sky?
 (A) Clouds are out of atmosphere
 (B) Clouds are beyond the range of gravitational force
 (C) Clouds are weightless
 (D) Clouds are lighter than air
- Q. 12. Soyabean mixed wheat flour used for making rotis provides more _____ to the body.
 (A) carbohydrates (B) fats
 (C) proteins (D) salt
- Q. 13. Guess who am I?
 I am formed out of ice and dust particles. I am seen after certain years. My identity is my long feathery tail.
 (A) Asteroid (B) Dwarf planet
 (C) Meteor (D) Comet
- Q. 14. On which tree-leaves, does a female of 'Tiger - butterfly' lay eggs?
 (A) Cotton (Rui) (B) Mango
 (C) Mulberry (D) Banyan
- Q. 15. Milk, Water, Tea and Green mango juice are kept in different steel bowls. A coin is kept in each bowl. From which bowl the coin can be seen clearly?
 (A) Milk (B) Water (C) Tea (D) Green mango juice
- Q. 16. A magnet is cut into three pieces. Those are shown in this diagram. Guess the correct option.
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N	S
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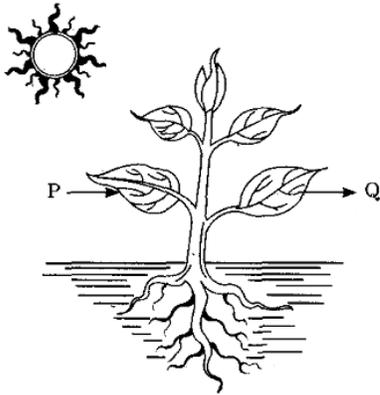
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- Q. 17. In which layer of the atmosphere do we see meteorite fall?
 (A) Troposphere (B) Stratosphere
 (C) Mesosphere (D) Ionosphere

Q. 18. In the process of 'Photosynthesis' which gases are represented by the points 'P' and 'Q'?



- (A) P – CO₂, Q – O₂ (B) P – O₂, Q – CO₂
 (C) P – N₂, Q – O₂ (D) P – O₂, Q – N₂

Q. 19. Object 'P' sinks in kerosene and floats on water, because _____.

- (A) object 'P' is heavier than kerosene and water
 (B) object 'P' is lighter than kerosene and water
 (C) object 'P' is lighter than kerosene and heavier than water
 (D) object 'P' is heavier than kerosene and lighter than water

Q. 20. Doctor has advised Sagar to include raisins, dry dates, jaggery and green vegetables in his diet. Name the disease from which Sagar is suffering from.

- (A) Anaemia (B) Constipation
 (C) Diabetes (D) Piles

Q. 21. While playing Sitar in an Orchestra, if suddenly two strings of Sitar become loose. What will happen?

- (A) There won't be any sound
 (B) Sound produced will be loud
 (C) There won't be any difference in notation
 (D) Some notations will be discordant

Q. 22. The colour of soil in Maharashtra state is different in various regions, as _____.

- (A) the temperature of each region is different
 (B) the proportion of minerals is different in the stone from which the soil is formed.
 (C) there is a difference rainfall
 (D) different crops are grown on the soil

Q. 23. Which of the following animals is a vertebrate?

- (A) Toad (B) Cockroach
 (C) Earthworm (D) Snail

Q. 24. If a person suffers from loose motion, the doctor advises him/her to have curd or butter milk; so that _____.

- (A) his/her body gets energy
 (B) it helps the body to recover from the washed out salts
 (C) deficiency of probiotic bacteria is removed.
 (D) it provides proper quantity of vitamins to the body.

Q. 25. While playing a shadow game with our fingers, identify the correct position of hands, torch and screen.

- (A) Hands — Torch — Screen
 (B) Torch — Hands — Screen
 (C) Screen — Torch — Hands
 (D) Torch — Screen — Hands

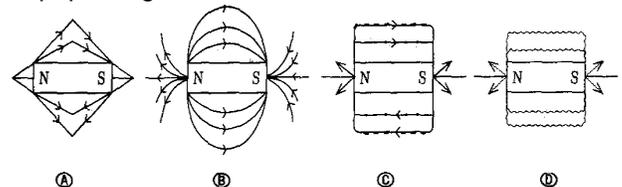
Q. 26. When grain was stored in a closed tin, there were no maggots in it. But when opened after some months, there were maggots in the tin. From where they could have entered the tin?

- (A) They must have entered the tin from the gaps
 (B) They were hidden in the gaps
 (C) There must be maggot eggs in the grain, when the grain was filled in the tin
 (D) Maggots were born automatically

Q. 27. Which vehicle will require minimum energy to carry equal mass at equal distance?

- (A) Ship (A) Aeroplane
 (A) Truck (A) Railway

Q. 28. A bar magnet is kept on a white paper. Iron filling is spread around it. Which figure will be seen if the paper is given a flick?



Q. 29. At what maximum angle, can we bend our leg in the knee joint?

- (A) 90° (C) 180° (C) 360° (D) 270°

Q. 30. Which source of energy is utilised for operating machinery on satellite?

- (A) Cadmium Nickel-cell (B) Dry-cell
 (C) Solar cell (D) Liquid fuel

Q. 31. Name the season in which all the following situations take place. (P) Leaves start dropping from the trees (Q) Mango trees start blossoming (R) The atmosphere is pleasant (S) Frogs are not seen on the land

- (A) Winter (B) Summer (C) Rainy (D) Spring

Q. 32. Plastic bottle is rubbed on nylon cloth and brought near our hand. The hair on the hand raise straight. Due to which force this action takes place?

- (A) Frictional force (B) Electrostatic force
 (C) Muscular force (D) Force of attraction

Q. 33. In which of the following substance, the speed of sound is minimum?
 (A) Oxygen (B) Water (C) Kerosene (D) Iron

Q. 34. The chart indicates that how much water Sheela saves everyday. Find out how much water she saves in a week?

Scale → 1 ● = 500 ml

	Use of Water	Water Saved
1)	Bathing	● ●
2)	Brushing teeth	●
3)	Legs and hand washing	● ●
4)	Drinking	●

(A) 3 litre (B) 6 litre (C) 42 litre (D) 21 litre

Q. 35. It is beneficial to plant local trees, when we plant trees on large scale. This is because _____.

- (A) trees grown locally, grow well as they adjust better with surroundings
- (B) some alien trees' presence may cause stagnation of local trees' growth.
- (C) some alien trees cannot grow in different atmosphere
- (D) All of the above

Q. 36. Lunar month has _____ days.

- (A) 28 to 30 (B) 30 to 31
- (C) 14 to 15 (D) always 29

Q. 37. Which of the following sources of energy is not renewable?

- (A) Oceanic waves (B) Natural gas
- (A) Solar energy (D) Wind

Q. 38. What is the unit of energy in SI system?

- (A) Joule (B) Newton
- (C) Calorie (D) Kilocalorie

Q. 39. Tree 'P' is 10 m away from railway line. While tower 'Q' is at 100 m and hill R is at 500 m. When we travel by railway, it seems above mentioned things move backward. Compare the speed of these backward moving things.

- (A) Speed of P < Speed of Q < Speed of R
- (B) Speed of P > Speed of Q > Speed of R
- (C) Speed of P - Speed of Q = Speed of R
- (D) Speed of P > Speed of Q < Speed of R

Q. 40. 'Alnico' is made up of which metals?

- (A) Iron + Nickel + Cobalt
- (B) Aluminium + Zinc + Iron
- (C) Aluminium + Nickel + Cobalt
- (D) Iron + Aluminium + Nickel

Q. 41. On what factor the colour of stars depend?

- (A) Size of the star
- (B) Distance of the star from the Earth
- (C) Temperature of the star's surface
- (D) Gas on the star.

Q. 42. Raju sowed coriander seeds in a pot. After a few days, he noticed that the saplings from the pot had rotten. Find the reason.

- (A) Got more sunlight
- (B) Less use of manure
- (C) More water was supplied than required
- (D) Less sunlight and more manure was supplied than needed.

Q. 43. Smoking is prohibited in public place by law because.

- (A) it causes diseases to breathing organs
- (B) It causes lungs cancer
- (c) persons who come in contact with the smokers, have to face bad effects of smoking.
- (D) lips turn black.

Q. 44. Which is the example of uniform linear motion?

- (A) A girl coming down from slide
- (B) A ball thrown in upward direction
- (C) An arrow sent at its aim by the archer
- (C) A train starting from station

Q. 45. Village Malin from Pune district was ruined due to which calamity?

- (A) Excessive rain
- (B) Severe earthquake
- (C) Crumbling down of a mountain
- (D) Forest fire

Q. 46. To retain nutritional value of vegetables, which statement is correct'?

- (A) First cut the vegetables then wash them
- (B) Cook the vegetables with extra water
- (C) While cooking, cover the vegetable with a lid
- (D) When the vegetable is cooked, throw extra water from it.

Q. 47. I give protection to internal organs. I retain heat of the body like a blanket. Some vitamins get dissolved in me. Guess who am I?

- (A) Muscle (B) Layer of fat
- (C) Bone (D) Blood

Q. 48. Density of planet _____ is less than water.

- (A) Earth (B) Mars (C) Saturn (D) Mercury

Q. 49. 10 cm long pencil is placed vertically in front of a mirror at a distance of 5 cm. If we join both ends of the pencil and its image to make a rectangle, what will be its area?

- (A) 200 cm² (B) 50 cm² (C) 100 cm² (D) 25 cm²

Q. 50. Write sequence of the events before a hail storm, in water cycle.

- (A) Freezing — Evaporation — Condensation
- (B) Condensation — Evaporation — Freezing
- (C) Evaporation — Condensation — Freezing

(D) Freezing — Condensation — Evaporation

Q. 51. Which vitamin is destroyed by heat and light?

- (A) Vitamin A (B) Vitamin C
(C) Vitamin D (D) Vitamin E

Q. 52. When we light a candle, wax around the flame melts but the whole candle does not turn into liquid because _____. Find the most appropriate option.

- (P) Wax around the flame melts and drops out. It again gets solidified due to cold air
(Q) Freezing point of wax is about 60 °C
(R) Heat of the flame does not reach the portion of the candle which is away from the flame
(A) P (A) P, R (A) P, Q (A) P, Q, R

Q. 53. Which media will be most useful to inform about the forest fire calamity to emergency relief management system?

- (A) Laptop (A) Tab (A) Telephone (A) Mobile

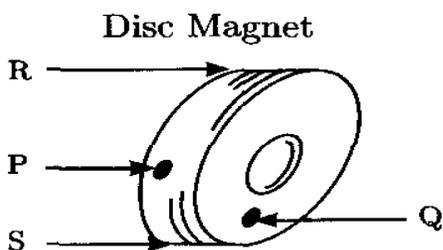
Q. 54. Which statement is false about metals?

- (A) Metals are malleable
(B) Metals are ductile
(C) Sonority of all metals are same
(D) Metals are good conductors of heat

Q. 55. Reshma cuts fruits and eats them. Ria likes fruit juice. Maya bites and chews fruits. Mona makes fruit salad and eats. Who does not get fibre element from the fruits.

- (A) Reshma (A) Ria (A) Maya (A) Mona

Q. 56. Figure shows four points P, Q, R, S on a disc magnet. On which point there will be maximum magnetic force?



- (A) P (A) Q (A) R (A) S

Q. 57. Recognise the relation among the first three elements and select the proper alternative in the given square. Oxygen carrier : Iron :: Anaemia
Control of growth : _____ : Goitre

- (A) Sodium (B) Fluorine (C) Calcium (D) Iodine

Q. 58. 'CNG' or 'LPG' must be used for vehicles, because _____.

- (A) it requires less space than petrol tank
(b) it saves time
(c) it gives more speed than petrol
(D) it does not cause pollution

Q. 59. Some statements are given about frictional force find the *incorrect* one from them.

- (A) Frictional force is produced when two things come in contact.
(B) Frictional force reduces the speed.
(C) Wear and tear of machine parts take place due to frictional force.
(D) It is always good to lessen frictional force.

Q. 60. Where do we see Saline land?

- (A) Near dam area (C) In the desert
(C) Far away from river (D) On the mountain

Q. 61. What is the principle behind functioning of a pinhole camera?

- (A) Light rays travel in a straight line
(A) Light gets reflected
(A) White light is made up of seven colours
(A) While travelling through the hole, light changes its path

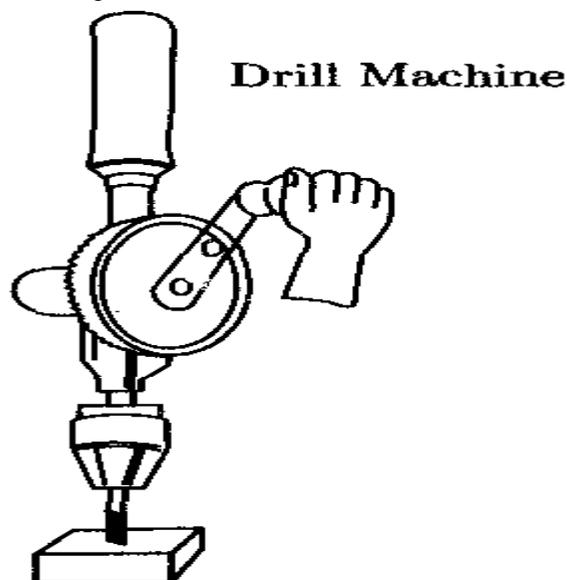
Q. 62. I am a major constituent of atmosphere on earth. I am required in the production of proteins. I have a lion's share in growth of all living things. Guess *who am I*?

- (A) Oxygen (B) Nitrogen
(C) Argon (D) Carbon dioxide

Q. 63. Select an environment friendly measure of protecting grains from insects.

- (A) Use of Boric powder (B) Use of Sulphur
(C) Use of Castor oil (D) Use of Mercury tablets

Q. 64. Which forces are shown in the given picture of drilling machine?



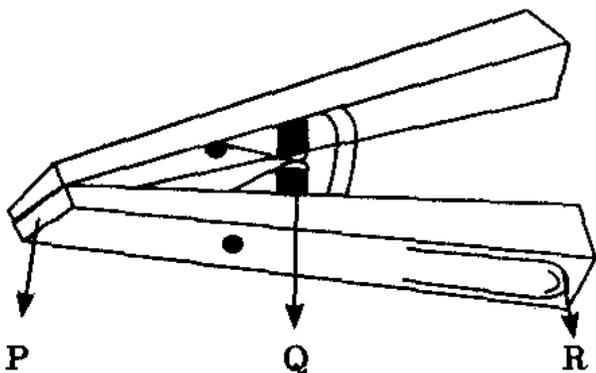
- (A) Mechanical force and muscular force
(B) Muscular force and gravitational force
(C) Frictional and gravitational force
(D) Gravitational and mechanical force

- (B) Lemon squeezer, screw, Nail-cutter
 (C) Sewing machine, needle, a pair of scissors
 (D) Crane, see-saw, giant-wheel

Q. 78. Find the odd one out.

- (A) Fungus (B) Mango (C) Grass (D) Maize

Q. 79. Diagram of a cloth clip is given. Find the correct order of points of the clip, when it is used for clipping a cloth.

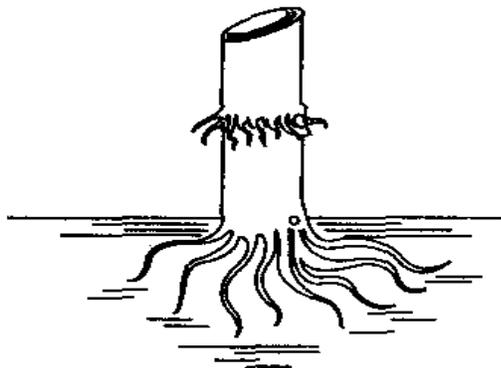


- (A) P - load, Q - effort, R - fulcrum
 (B) P - load, Q - fulcrum, R - effort
 (C) P - fulcrum, Q - load, R - effort
 (D) P - effort, Q - load, R - fulcrum

Q. 80. Water management is required to avoid the drought. For that _____.

- (A) make trenches (B) build field lakes
 (C) build small dam on revulet
 (D) All above actions are needed.

Q. 81. Figure shows roots of which plant?



- (A) Bean (A) Peas (A) Coconut (A) Mango

Q. 82. Why rubber is vulcanized?

- (A) To change its colour (B) To make it harder
 (c) To increase its tenacity
 (D) To increase its fluidity

Q. 83. Which statement about artificial fibre is not true?

- (A) These fibres can be cleaned easily
 (B) These fibres are strong and lasting
 (C) Microbes can disintegrate these fibres
 (D) These fibres (threads) are not water absorbent

Q. 84. Naphthalene balls are kept in silk clothes. After some days, the size of balls had become small. Why?

- (A) Balls might have dissolved in damp air
 (B) Balls might have broken with clothes pressure
 (C) Particles of balls might have mixed with the atmosphere
 (D) Cockroaches might have scratched the balls

Q. 85. Recognise correlation and fill in the blanks
 Wall : Brick : Living thing : _____.

- (A) Tissue (B) Cell (C) Organs (D) Bones

Q. 86. 100 bricks are to be kept at the 10 m height. Mohan takes one hour to do this. Kasim needs two hours to do this. What will you say about work done by both?

- (A) Work done by both is same
 (B) Mohan's work is more than Kasim's work
 (C) Kasim's work is more than Mohan's work
 (D) Can't say

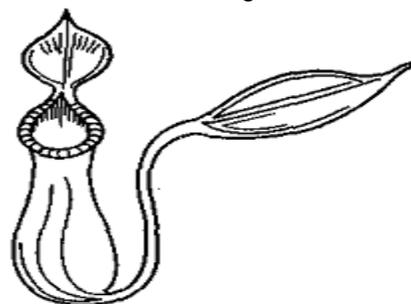
Q. 87. Which statement is correct with reference to a handmill (flat grinding stone)?

- (A) The upper part should be smoother than the lower
 (B) The lower part should be smoother than the upper
 (C) Both the parts should be smooth
 (D) Both the parts must be chiseled .

Q. 88. Which of the following elements, when burnt produce water?

- (A) Carbon (B) Hydrogen
 (C) Nitrogen (D) Chlorine

Q. 89. Which method of nutrition is followed by the plant shown in the diagram.



- (A) Autotrophic and insectivorous
 (B) Heterotrophic and insectivorous
 (C) Autotrophic (D) Heterotrophic

Q. 90. When diaphragm of tabla is hit, sound is heard. Arrange the actions in order as they happen

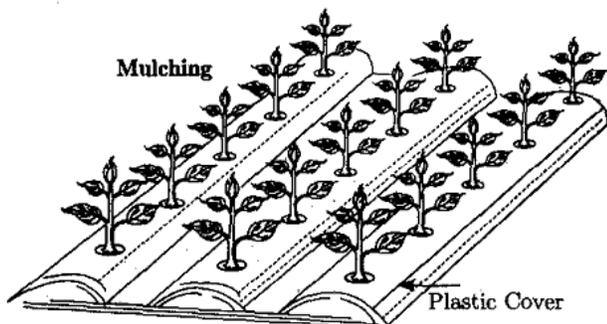
- (P) Sound waves spread in all direction
 (Q) Sensation of sound is carried by sensory nerves to the brain
 (R) The diaphragm of tabla vibrates when it is hit and sound is produced

- (S) Due to Sound waves diaphragm of ear vibrates
 (A) P, S, Q, R (B) R, P, S, Q
 (C) S, P, R, Q (D) Q, P, S, R

Q. 91. Where on the Earth we cannot have 'Zero' shadow day?

- (A) Equator
 (B) Equator to the tropic of Capricorn
 (C) Equator to the tropic of cancer
 (D) Both poles

Q. 92. Now-a-days, farmfields are covered with transparent plastic sheets, because _____



- (A) it protects plants from the Sun
 (B) it avoids increase in temperature
 (C) it controls the growth of unwanted grasses
 (D) it protects the plants from dust and insects

Q. 93. Which astronomical incident takes place when the Sun, the Mercury and the Earth come in a straight line?

- (A) Mercury eclipse (B) Solar eclipse
 (C) Transit of mercury (D) Earth eclipse

Q. 94. In the month of April 2016, a large portion of forest was burnt and ruined in

- (A) Uttarakhand (B) Jharkhand
 (C) Bihar (D) Madhya Pradesh

Q. 95. The catechu used in eatable betel leaves is obtained from _____ tree.

- (A) Arabic tree (B) Mulberry tree
 (C) Khair (D) Beet

Q. 96. Why do some fish migrate from sea to river or from one part of sea to another?

- (A) To lay eggs (B) Due to shortage of food
 (C) Due to pollution (D) All of the above

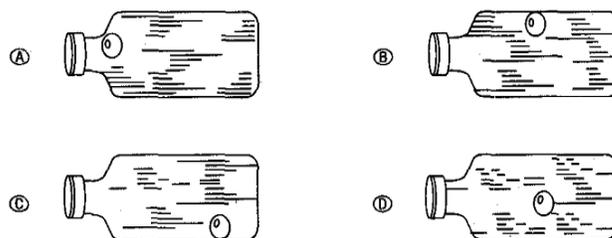
Q. 97. Which of the following lamps use minimum energy?

- (A) LED (B) LCD (C) CFL
 (D) Tubelight of less diameter

Q. 98. Which year was a leap-year after 1897?

- (A) 1898 (B) 1900 (C) 1902 (D) 1904

Q. 99. An air tight bottle is filled with water. There is one air bubble in it. Which figure shows the correct position of the air bubble in the water?



Q. 100. On 22nd June 2016, which institute sent 20 satellites from Sriharikota?

- (A) NASA (B) ISRO (C) TIFR (D) BARC

Answer Key & Solutions

- A. 1. (C) Explanation: Gulmohar tree is in full blossom at the end of the summer and before the beginning of rainy season.
- A. 2. (B) Explanation: Artificial satellite cannot be used for transporting goods.
- A. 3. (A) Explanation; Public Health Department observes a dry day to prevent reproduction of the mosquitoes which increases due to stored water.
- A. 4. (C) Explanation: As shown in the diagram, if force is applied on eraser 'P' and 'R', they will move in the direction of force. But the force applied to the eraser 'Q' is from above, so it will change its shape due to the force.
- A. 5. (C) Explanation: Cooked rice, Chapatis and bhakari are the major items in the Indian food. These are made of paddy (rice), wheat maize and millet like jowar and bajari which are cereals.
- A. 6. (B) Explanation: Since the Earth moves from west to east, eastern region comes first in front the Sun. So in India, while coming from east to west, the Sun rises first in Shillong, then in Kolkata, then in Delhi and last in Mumbai. We see this difference in time of sunrise because these cities are not on the same latitude.
- A. 7. (D) Explanation: Smoothness of a surface causes regular reflection and we get image.
- A. 8. (C)
- A. 9. (D) Explanation: The garbage burning, throwing it on dumping ground or in water causes air and water pollution. The best method for disposing wet garbage without causing pollution is to put earthworms in it. These worms turn the garbage into manure which is useful for soil.
- A. 10. (C) Explanation: The air sacs means small bags that are situated at the end of the branches of windpipe in our lungs. The Oxygen that is breathed in is absorbed by the thin veins, which are around air sacs. At the same time the Carbon dioxide that is given away by all parts of body is collected in these sacs and sent out by exhaling.
- A. 11. (D) Explanation: Items that have less density float in the air or liquid. Clouds are lighter than air. So they float in the air.
- A. 12. (C) Explanation; Soyabean contains a lot of protein, so if its flour is mixed with wheat flour for making rotis, the body gets more protein.
- A. 13. (D) Explanation: Comets are not a part of Solar System but they revolve around the Sun in elliptical path. When they come near the Sun the substance in them transforms into gas. They are

thrown in direction opposite to the Sun. So the thrown part looks like a tail.

- A. 14. (A)
- A. 15. (B) Explanation: Water is transparent. The sunrays strike the bottom of the glass and reflect back. So the coin is seen clearly in water. Tea and milk are opaque, while green mango juice is translucent.
- A. 16. (A) Explanation: When a bar magnet is cut at the centre, two poles are formed which are opposite of the original poles. In this way, each part behaves as a separate magnet and the opposite poles of each pair come together.
- A. 17. (C) Explanation: Falling of a star is called 'meteorite fall'. Mostly these meteors are rocky pieces originating from the asteroid belt. Smaller rocky pieces get completely burnt due to friction in air. Big ones cause lightening while entering the atmosphere. These processes take place in mesosphere.
- A. 18. (A) Explanation: Trees prepare their food by photo synthesis method. In this process they take in CO_2 and give out O_2 . So, P represents CO_2 and Q represents O_2 .
- A. 19. (D) Explanation: An object lighter (having less density) than liquid floats in it and object heavier (having more density) than liquid sinks in it. Object P sinks in kerosene and floats in water. It means object P is heavier than kerosene and is lighter than water.
- A. 20. (A) Explanation: Green vegetables, raisins, jaggery and dry dates contain iron in large proportion. The doctor has advised Sagar to include these items in his diet. That means the iron proportion in his blood has become less. This indicates that he is suffering from anaemia.
- A. 21. (D) Explanation: Sound waves are produced by sitar when the fingers move on its strings. The quality of sound depends on the tension applied on the strings. If this tension becomes less, the melody will be lost.
- A. 22. (B) Explanation: The Earth is made up of different soil layers. The inner core is made up of original rock. The minerals found in the soil are from this original rock. Different minerals are found in different rocks. So, the colour of the soil differs at different places on the Earth.
- A. 23. (A)
- A. 24. (C) Explanation: Probiotic bacteria exist in a huge scale in our intestine. They are very beneficial for our health. If a person suffers from loose motion, these useful bacteria are thrown out of body. Curd and buttermilk contain a lot of these bacteria.

A. 25. (B) Explanation: When an opaque object is placed in front of a light source, light does not pass through it. So, a shadow of the object is seen on the screen

A. 26. (C) Explanation: The maggot eggs are very small. They can not be seen with . naked eyes. The warmth and air in the grain tin is enough to hatch these eggs. So we can say that the eggs were already there in the tin when the grain was filled in it.

A. 27. (A) Explanation: Among the given modes of transport, a ship requires less energy. A ship floats on water due to buoyancy. Here frictional force is less. So a ship can travel more in less fuel.

A. 28. (B) Explanation: A magnetic field is spread over a certain area around magnet. When iron particles become steady in this magnetic field, we see a particular figure. These lines are always curved and they join pole N and pole S.

A. 29. (B) Explanation: Our knees have a hinge joint. A hinge joint can move only in one direction. So it can bend into 180 degree maximum.

A. 30. (C) Explanation: While revolving in space, a satellite can get heat and light energy from the Sun. Solar panel converts this into electric energy. This energy is used for operating the machines in the satellite.

A. 31. (A) Explanation: All the four different situations given in the question are seen in spring season.

A. 32. (B) Explanation: Due to friction between plastic and nylon, the electricity is generated. This electricity is called 'static electricity,' that causes our bodyhair to raise up.

A. 33. (A) Explanation: The speed of the sound is greatest in solids, then in liquids and least in the gases.

A. 34. (D) Explanation: $1 \blacklozenge = 500 \text{ ml.}$
 $1 \text{ week} = 7 \text{ days}$
Water saved every day is $= 6 \blacklozenge$
 $= 500 \times 6 \text{ ml.} = 3000 \text{ ml.} = 3 \text{ liters.}$
So, water saved in 7 days $= 7 \times 3 = 21 \text{ liters.}$

A. 35. (D)

A. 36. (A)

A. 37. (B) Explanation: Natural gas is not renewable. Its existing quantity is .limited. This gas cannot be recreated by human beings.

A. 38. (A)

A. 39. (B) Explanation: When we are in motion, we feel that the objects around us are going backward in fast motion. Objects far from us seem to move away slowly from us

A. 40. (C)

A. 41. (C) Explanation: The colour of star depends upon the temperature of the star's surface.

A. 42. (C) Explanation: Every kind of plant requires specific proportion of water. If more than required water is supplied, the plant gets rotted.

A. 43. (C) Explanation: Smoking is prohibited in public areas by law, as passive smoking is harmful to public at large.

A. 44. (C) Explanation: An arrow sent by the archer does not change its speed until it hits the target. The objects given in all other options change their speed.

A. 45. (C)

A. 46. (C) Explanation: Vegetables contain some vitamins that get dissolved in water. Washing vegetables after cutting them or throwing away extra water after boiling them or cooking them uncovered, causes loss of these vitamins.

A. 47. (B) Explanation: A layer of fats contains all the qualities that are mentioned in the question.

A. 48. (C)

A. 49. (C) Explanation: In a mirror, height of the image is equal to the height of the object (pencil). So, height of the image (which is one side of the rectangle) is 10 cm. Distance of the image from the mirror is equal to the distance of the object from the mirror. So, the image will form at 5 cm from the back of the mirror. Therefore, the distance between the object and image will be $(5 + 5) = 10 \text{ cm.}$ This is second side of the rectangle.

A. 50. (C) Explanation: The heat of the Sun causes evaporation. The vapours when reach certain height become cool and get condensed to form clouds. If these clouds come in the reason of low temperature, the water droplets in them get freezed to form hails and they fall down,

A. 51. (B)

A. 52. (D) Explanation: When we lit a candle, the heat it produces does not reach the entire candle. The wax around the flame melts and slides down and becomes solid. This happens because the melting point of wax is about $60 \text{ }^\circ\text{C.}$

A. 53. (D) Explanation: Now-a-days, each and every person keeps a mobile with himself/herself. So, it is the most suitable mode for immediate communication.

A. 54. (C) Explanation: The sonority of all metals is not equal. However, they are good conductor of heat and they are ductile as well as malleable.

A. 55. (B) Explanation: Ria drinks fruit juice. While extracting juice, the fibers in the fruit are thrown out.

A. 56. (B) Explanation: In a disk magnet, magnetic poles are on its flat surface. So, the magnetic force is maximum on the upper and lower surface.

A. 57. (D) Explanation: The first pair shows the usefulness of iron and lack of it causes anaemia. Among the given alternatives, the work of iodine is to restrict growth. Lack of iodine causes goitre.

A. 58. (D) Explanation: GNG and LPG do not produce harmful gases like Sulphur dioxide or Nitrogen causing pollution.

A. 59. (D) Explanation: To avoid wear and tear of machine parts and for some other reasons, reduction in frictional force is essential. But, if the frictional force becomes too little, it will become very difficult to walk or drive on the streets.

A. 60. (A) Explanation: If more water is given to the land, it becomes saline. More water is available near the dam area and it is provided in large quantity. So the land near a dam becomes saline.

A. 61. (A)

A. 62. (B) Explanation: Air contains 78 % of Nitrogen. It is necessary for the production of proteins which are essential for the growth of all living things.

A. 63. (C) Explanation: Castor oil is a natural disinfectant. Boric powder, Sulphur and Mercury tablets are chemical disinfectants. If they enter the stomach, they prove harmful. When we wash grain, they get mixed in water and pollute it.

A. 64. (A) Explanation: In the given picture, muscular force of hand and mechanical force of a drilling machine are working collectively to make a hole.

A. 65. (C) Explanation: Man first lived on trees. Then he started living in caves. After acquiring the knowledge of constructing houses, he started living in houses made of stone. Later he started living in houses with roof.

A. 66. (B) Explanation: Planets revolve around the Sun. Satellites revolve around planets. Comets revolve around the Sun. So, they are not satellites. All planets do not have satellites.

A. 67. (B) Explanation: Fox, eagle and wolf are carnivorous, but giraffe is herbivorous.

A. 68. (B) Explanation: If the plastic bottle is pressed with hands, water releases like a fountain from it. In the same manner, human heart contracts, the pressure on blood increases and it is pushed all over the body.

A. 69. (C) Explanation: Among these steel glasses, glass 'Q.' is the lightest glass. Glass 'R' is filled with sand. So it is the heaviest of all. When all the glasses are hit with the same force all the three glasses will

not have same vibration. The glass filled with sand will have least vibrations. So, the sound made by it will be the lowest.

A. 70. (C) Explanation: When big dams are built, a large part of land goes under water. Some living species get vanished and some get reduced which causes reduction in biodiversity to some extent.

A. 71. (A) Explanation: To reduce friction and protect the machine from rust, grease is applied to all parts of the machine.

A. 72. (B) Explanation: On the left side of the figure, contour lines are closer to each other as compared to the contour lines on the right side. This shows that the mountain on the left side has steeper slope than the mountain on the right. At the centre of the left hand figure we have line of 600 m and on the right hand side we have a line of 400 m. This shows that the height of left side is more than the right side of the mountain.

A. 73. (D) Explanation: See-saw is a lever of first order. We have to use the following formula to maintain the balance:

Load \times Distance of load from fulcrum
= Force \times Distance between force and fulcrum.
So, the distance between fulcrum and force = 6m.

A. 74. (D) Explanation: From the given options, pumpkin is a creeper, basil is a herb, shoeflower is a shrub and banyan tree is a tree.

A. 75. (A) Explanation: Signs in the form of geometrical diagrams and symbols in form of tiny pictures are used in maps.

Here, + is a symbol, others are signs.

A. 76. (D) Explanation: It is necessary that the load lifted by crane must get detached from it easily. Electric magnet is used in cranes, so that when electric current is on, magnetic force starts. When it is off, there is no magnetic force. So, the load automatically comes down.

A. 77. (A) Explanation: Needle, knife and axe are the examples of wedge.

A. 78. (A) Explanation: All options except fungus are autotrophic type of plants.

A. 79. (B) Explanation: Force is applied on point 'R': Point 'Q' does not move. So it is fulcrum. 'P' portion of a clip catches hair. So, the load point is there.

A. 80. (D)

A. 81. (C) Explanation: Roots of a coconut tree are fibrous. Rest of the plants or creepers have tap roots.

A. 82. (B)

A. 83. (C) Explanation: Elements derived from mineral oils are used for making artificial threads. They can not be disintegrated by microbes.

A. 84 (C) Explanation: Naphthalene balls are sublimable. Their solid form changes into gas-form and mixes with air.

A. 85 (B) Explanation: As a wall is built with bricks, same way body of a living things is made up of cells.

A. 86 (A) Explanation: Work done depends on the applied force. In the given example, both of them have to apply the same force. Both are lifting the weight through the same distance. Hence displacement is also same. So, the work done by both is same.

A. 87 (D) Explanation: The grain is in the middle of two parts of a hand-mill. Both the parts are chiseled and made rough. So that the friction increases and fine flour is made.

A. 88 (B) Explanation: When Hydrogen is burnt, two atoms of Hydrogen and one atom of Oxygen combine to form one molecule of water.

A. 89 (A) Explanation: The plant shown in the diagram has chlorophyll. It prepares its own food by photosynthesis with the help of chlorophyll, but the soil in which it grows lacks certain nutrient. So, it absorbs these nutrients by catching insects.

A. 90 (B)

A. 91 (D) Explanation: On both poles of the Earth, we cannot have a Zero-shadow-day. To get Zero shadow, the sunrays must be normal. The axis of the Earth is inclined. The part of the Earth on the of Tropic of Capricorn and on the north of Tropic of Cancer never receives normal rays of the Sun.

A. 92 (C) Explanation: As shown in the diagram, the farm is covered with a plastic sheet, which has holes, the saplings will come out of these holes and grow. The remaining empty land will not be able to grow unwanted grass or plants. The sheet will also prohibit evaporation of water which will save water.

A. 93 (C) Explanation: The planet of Mercury is closer to the Sun than the Earth and is smaller in size. So when the Sun, the Mercury and the Earth come in a line, a black spot of the Mercury is seen moving over the Sun. This is called transit of mercury.

A. 94 (A)

A. 95 (C)

A. 96 (D)

A. 97 (A)

A. 98 (D) Explanation: Generally, the year that is divisible by four is called a leap-year (i.e. 1800, 1900, 2000). But for the century year, it must be divisible by 400. Year 1900 is not divisible by 400. So, it was not a leap year.

A. 99 (B) Explanation: An air bubble is lighter than water. So it always goes to the surface and remains at the highest level of water.

A. 100 (B) Explanation: The Indian Space Research Organisation (ISRO) sent 20 satellites in space on 22nd June 2016. ISRO, India's premiere satellite research organisation, is situated in Sriharikota in Andhra Pradesh.