

# *Bloom Science Olympiad Sample Paper 1*

Maximum Time : 60 Minutes

Maximum Marks : 60

## INSTRUCTIONS

1. There are 50 Multiple Choice Questions in this paper divided into two sections :  
**Section A** 40 MCQs; 1 Mark each  
**Section B** 10 MCQs; 2 Marks each
2. Each question has Four Options out of which **ONLY ONE** is correct.
3. All questions are compulsory.
4. There is no negative marking.
5. No electric device capable of storing and displaying visual information such as calculator and mobile is allowed during the course of the exam.

Roll No.

Student's Name

## Section-A (1 Mark each)

1. Meat, fish, egg, etc. all are rich in .....  
 (a) proteins (b) vitamins  
 (c) carbohydrates (d) fats
2. Windmill uses ..... energy to generate electricity.  
 (a) mechanical (b) electrical  
 (c) wind (d) solar
3. Which of the following is not a bird?  
 (a) Bat (b) Ostrich (c) Parakeet (d) Emu
4. Which vitamin does citrus foods contain?  
 (a) Vitamin-A (b) Vitamin-B (c) Vitamin-C (d) Vitamin-D
5. Which conditions are required to grow seed?  
 A. Food B. Air  
 C. Water D. Warmth  
 E. Shelter  
 (a) Only A (b) A, C and D (c) B, C and E (d) B, C and D
6. Any noise above ..... dB is hazardous.  
 (a) 80 (b) 40 (c) 30 (d) 70
7. Match the following columns.

Column I (Habitat)	Column II (Animals)
A. Arboreal	1. Vulture
B. Aquatic	2. Seahorse
C. Aerial	3. Lion
D. Terrestrial	4. Monkey

### Codes

A	B	C	D	A	B	C	D
(a) 1	2	3	4	(b) 2	1	3	4
(c) 4	2	1	3	(d) 4	3	2	1

8. Mosquitoes and various insects breed in ..... water.  
 (a) flowing (b) freshwater  
 (c) stagnant (d) iced
9. Thickest layer of the Earth is called .....  
 (a) mantle (b) crust (c) outer core (d) inner core

10. Write [T] for true and [F] for false statements.

- I. About 70% of Earth's surface is covered with water.
- II. It is not necessary to drink pure water.
- III. Rain is the purest form of natural water.
- IV. Water also exist in air as water vapours.

Choose the correct option.

- |     |   |    |     |    |     |   |    |     |    |
|-----|---|----|-----|----|-----|---|----|-----|----|
|     | I | II | III | IV |     | I | II | III | IV |
| (a) | F | T  | T   | T  | (b) | T | T  | F   | F  |
| (c) | T | F  | T   | T  | (d) | F | T  | F   | T  |

11. When the food get spoiled it becomes

- (a) very tasty
- (b) very healthy
- (c) very hot
- (d) not fit for eating

12. Birds have ..... bones due to which they fly.

- (a) hard
- (b) hollow
- (c) cylindrical
- (d) soft

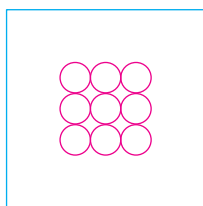
13. Which statement is not correct about food?

- (a) Food is needed for survival of living organisms.
- (b) We get food from plants only.
- (c) Food contains five main components.
- (d) Fats and carbohydrates are energy giving food.

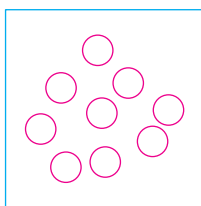
14. Digestion of food begins in the .....

- (a) mouth
- (b) stomach
- (c) liver
- (d) small intestine

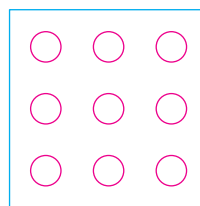
15. Following are the arrangement of molecules.



Box A



Box B



Box C

Which option is correct?

- (a) Box A could be cold drink
- (b) Box B could be wood
- (c) Box C could be nitrogen gas
- (d) All options are correct

16. Which pair is wrongly matched?

- (a) Evening star—Venus
- (b) Coldest planet—Neptune
- (c) Farthest planet—Neptune
- (d) Red planet—Sun

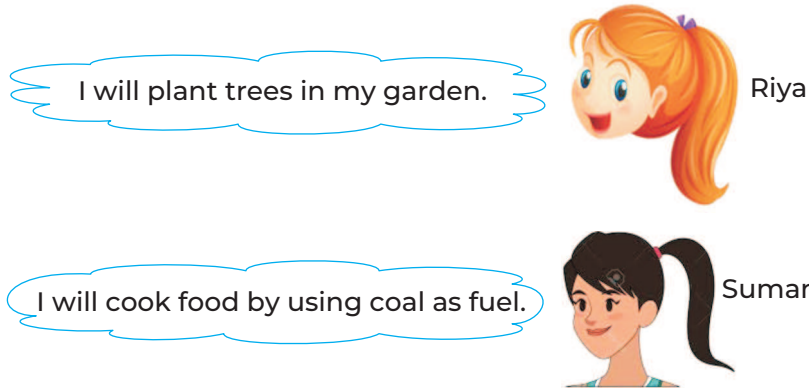
17. Backbone protects the .....

- (a) internal organs
- (b) joints
- (c) skull
- (d) spinal cord

- 18.** Monkey eats guava and seeds of guava are passed out undamaged. What type of dispersal is it?  
 (a) Water dispersal (b) Animal dispersal  
 (c) Explosion mechanism (d) Wind dispersal

- 19.** Movement of Earth on its axis is called .....  
 (a) rotation (b) revolution (c) migration (d) None of these

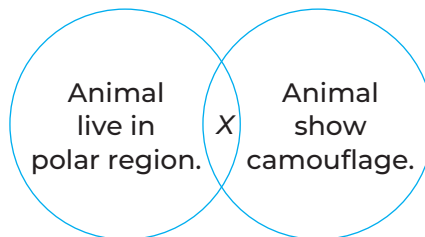
**20.** Two friends planning the weekend.



Which friend will do activity which cause air pollution?

- (a) Suman and Riya (b) Only Riya  
 (c) Only Suman (d) Neither (b) nor (c)

**21.** Study the Venn diagram.



X represent .....

- (a) penguin (b) polar bear (c) Arctic fox (d) Arctic tern

**22.** Deficiency of iodine causes .....

- (a) goitre (b) beri-beri (c) scurvy (d) anaemia

**23.** Match the following columns.

Column I (Bone joint)	Column II (Parts of body)
A. Hinge	1. Shoulder
B. Ball and socket	2. Elbow
C. Pivot	3. Wrist
D. Gliding	4. Backbone

**Codes**

	A	B	C	D
(a)	2	1	4	3
(c)	4	1	2	3

	A	B	C	D
(b)	1	2	3	4
(d)	4	3	2	1

- 24.** Which of the following are man-made object that revolve around the Earth?  
(a) Moon (b) Aryabhata (c) Natural satellites (d) None of these
- 25.** Why would we keep food in refrigerator?  
(a) Because it occupies a lot of space outside.  
(b) Because it does not look good outside.  
(c) Because it get spoiled at faster rate in warm places.  
(d) All of the above
- 26.** The property of floating of an object depends on its .....  
(a) shape (b) density (c) colour (d) All of these
- 27.** Write [T] for true and [F] for false statements.  
I. Brain is the control centre of human body.  
II. Our heart is made up of cardiac muscles.  
III. Liver is the smallest gland.  
IV. Respiratory system includes lungs only.

Choose the correct option.

**Codes**

	I	II	III	IV
(a)	T	T	F	F
(c)	T	T	T	T

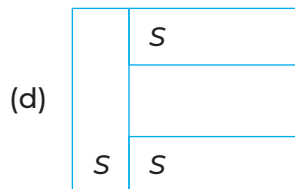
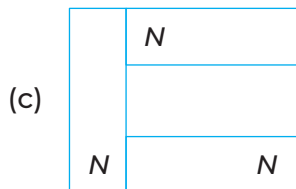
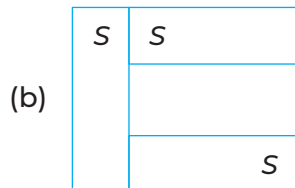
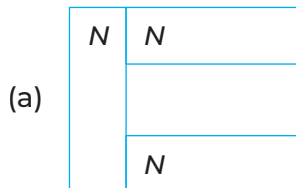
	I	II	III	IV
(b)	T	F	T	F
(d)	F	F	T	F

- 28.** Soil erosion is caused by  
(a) forest fire (b) water (c) wind (d) All of these
- 29.** Which of the following is wrongly matched?  
(a) Solar energy—Burning wood (b) Wind energy—Air  
(c) Hydro energy—Water (d) Geothermal energy—Earth
- 30.** Farmers cut the matured crops by .....  
(a) hand (b) sickle (c) harvester (d) All of these
- 31.** Water contains soluble and insoluble impurities. Which method is used to remove soluble impurities?  
(a) Sedimentation (b) Distillation (c) Filtration (d) Chlorination
- 32.** Cardiac muscles are .....  
(a) striated (b) involuntary (c) Both (a) and (b) (d) smooth
- 33.** Bacteria and fungi are .....  
(a) decomposers (b) producers (c) omnivorous (d) herbivorous

34. Which animal is called farmer's friends?

- (a) Fox (b) Oxen (c) Lion (d) Crow

35. Which arrangement of magnet is possible?



36. Guess who am I?

I have eyes, but  
I cannot see.  
I am a edible stem.

- (a) Potato (b) Onion (c) Carrot (d) *Asparagus*

37. The molten state of rock is called as .....

- (a) granite (b) magma (c) pumice (d) obsidian

38. Duck swims in water because it have .....

- (a) webbed feet (b) clawed feet (c) long feathers (d) short feathers

39. Which of the following is a physical change?

- (a) Cooking of food (b) Melting of ice  
(c) Burning of wood (d) Rusting of iron

40. Seema prepared a table of communicable and non-communicable diseases as follows

Communicable	Non-communicable
A. Beri-beri	E. Diabetes
B. Cold	F. Arthritis
C. Polio	G. Anaemia
D. Scurvy	H. Rickets

Which diseases are wrongly placed?

- (a) A and H (b) B and G (c) A and D (d) G and H

## Section-B (2 Marks each)

41. Study the following chart.

<b>X</b>	<b>Y</b>	<b>Z</b>
Food pipe, stomach	Wind pipe, Lungs	Brain, Nerves

Which system does represent X, Y and Z?

X	Y	Z
(a) Digestive	Respiratory	Nervous
(b) Digestive	Nervous	Excretory
(c) Excretory	Respiratory	Circulatory
(d) Circulatory	Excretory	Nervous

42. The given table represents the characteristics of two different objects *P* and *Q*.

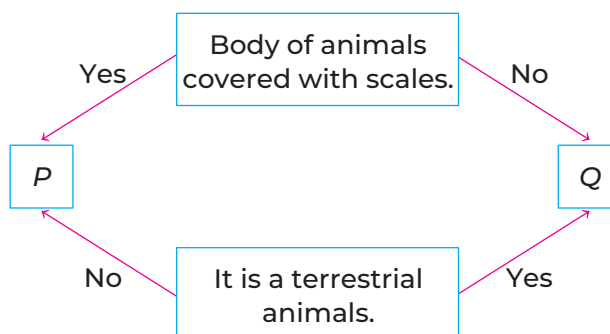
Characteristics	P	Q
Floats on water	✓	✗
Stretched easily	✗	✗
Lustrous	✗	✓

Identify *P* and *Q*.

- (a) *P*-Glass, *Q*-Plastic bag  
 (c) *P*-Wood, *Q*-Coin

- (b) *P*-Thermacol, *Q*-Feather  
 (d) *P*-Paper, *Q*-Plastic ball

43. Study the given chart.



Identify *P* and *Q*.

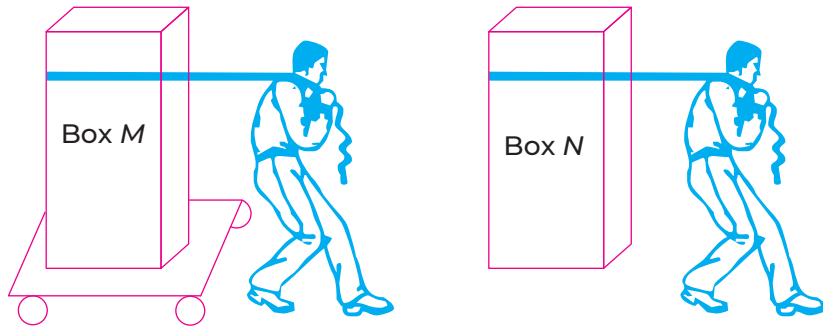
- P*
- (a) Snake  
 (c) Fish

- Q*
- Elephant  
 Emu

- P*
- (b) Fish  
 (d) Snake

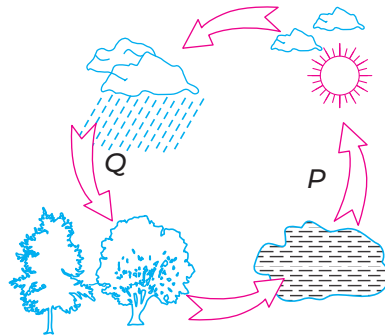
- Q*
- Camel  
 Ostrich

44. Rakesh tried to pull two different boxes filled with different items as shown in the given figure.



He has less difficulty pulling box *M* than *N*. What could the possible reason(s) be?

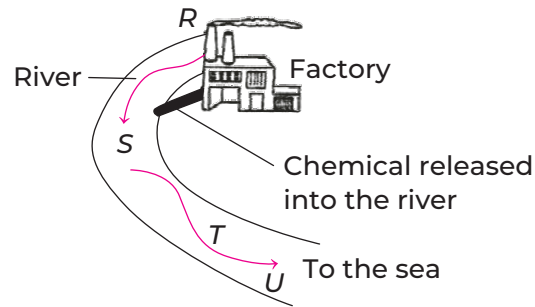
- (a) The wool is lighter than the wheat.
  - (b) There is more friction between box *N* and the floor.
  - (c) There is more friction between box *M* and the floor.
  - (d) He used wool to reduce the weight of box *M*.
45. The diagram given below shows the water cycle. Which of the following option shows the correct changing state of water in the processes *P* and *Q*?



<i>P</i>	<i>Q</i>
(a) Gas → liquid	Gas → liquid
(b) Liquid → gas	Gas → liquid
(c) Liquid → gas	Liquid → gas
(d) Gas → liquid	Liquid → gas



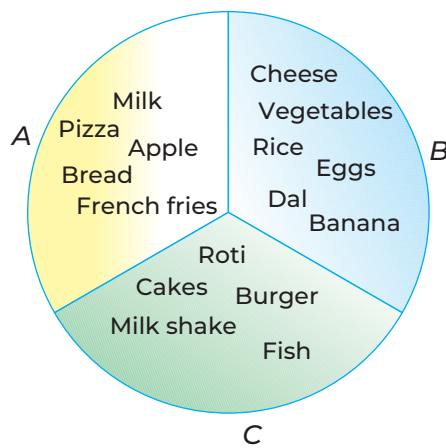
46. Look at the given picture carefully.



Which part of the river you should use the water to consume?

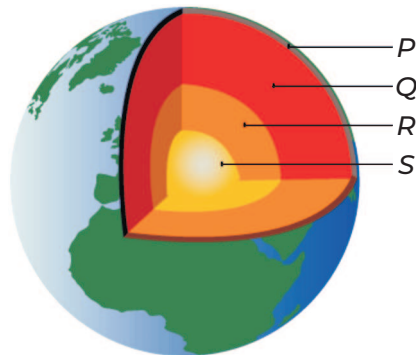
- (a) Only R                      (b) Only S                      (c) Only T                      (d) Only U

47. Which part of given pie-chart shows the proper balanced diet?



- (a) Only A                      (b) Only B                      (c) Only C                      (d) Both A and B

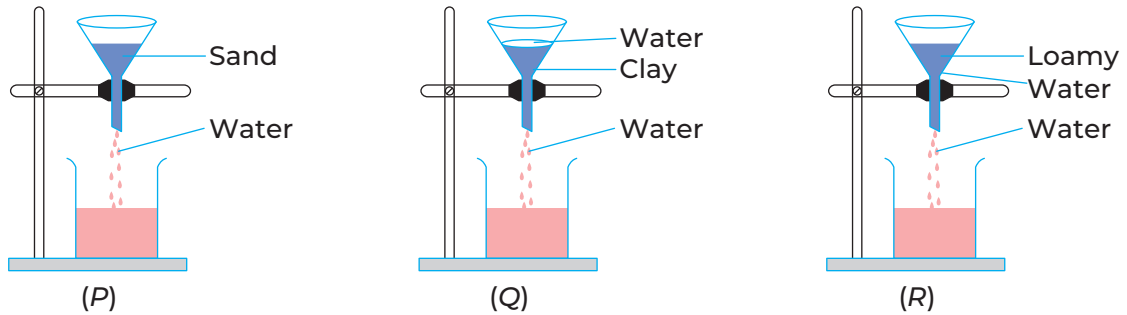
48. Given diagram shows the internal structure of the Earth.



Which layer contains molten magma, which comes out when volcano erupt?

- (a) P                      (b) Q                      (c) R                      (d) S

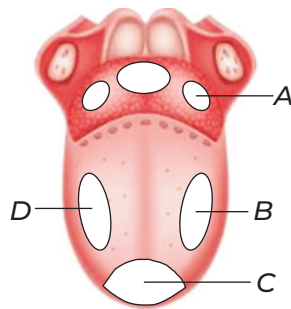
49. Study the experimental setup carefully.



Which soil has right water holding capacity for the growth of plants?

- (a) P                      (b) Q                      (c) R                      (d) P and R

50. Which side of the tongue, you taste bitter?



- (a) Both B and D                      (b) Only A                      (c) Only C                      (d) Both C and D

### OMR SHEET

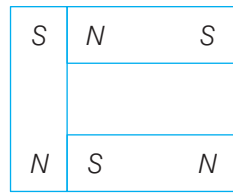
1	a	b	c	d	2	a	b	c	d	3	a	b	c	d	4	a	b	c	d
5	a	b	c	d	6	a	b	c	d	7	a	b	c	d	8	a	b	c	d
9	a	b	c	d	10	a	b	c	d	11	a	b	c	d	12	a	b	c	d
13	a	b	c	d	14	a	b	c	d	15	a	b	c	d	16	a	b	c	d
17	a	b	c	d	18	a	b	c	d	19	a	b	c	d	20	a	b	c	d
21	a	b	c	d	22	a	b	c	d	23	a	b	c	d	24	a	b	c	d
25	a	b	c	d	26	a	b	c	d	27	a	b	c	d	28	a	b	c	d
29	a	b	c	d	30	a	b	c	d	31	a	b	c	d	32	a	b	c	d
33	a	b	c	d	34	a	b	c	d	35	a	b	c	d	36	a	b	c	d
37	a	b	c	d	38	a	b	c	d	39	a	b	c	d	40	a	b	c	d
41	a	b	c	d	42	a	b	c	d	43	a	b	c	d	44	a	b	c	d
45	a	b	c	d	46	a	b	c	d	47	a	b	c	d	48	a	b	c	d
49	a	b	c	d	50	a	b	c	d										

## Answers with Hints

1. (a) Proteins are called body building foods. Foods like fish, meat, pulses, egg, etc. all are rich in proteins.
2. (c) Windmill is used to generate electricity from wind energy. Strongly blowing wind moves turbines of windmill which generate electricity.
3. (a) Ostrich, parakeet and emu, all are birds except bat. Bat has wings, but it is not a bird. It is a flying mammal because it gives birth to young ones.
4. (c) Usually citrus fruits contain Vitamin-C. People suffering from scurvy are advised to eat citrus fruits because they have vitamin-C deficiency.
5. (d) Seeds requires air, water and warmth to grow. It does not need food as it has reserved food material in their cotyledons.
6. (a) Noise level is measured in decibel (dB). WHO has prescribed an optimum noise level as 45 dB by day and 35 dB by night. Any noise above 80 dB is hazardous.
7. (c) The correct matching is
  - A. Arboreal (lives on trees)—Monkey
  - B. Aquatic (lives in water)—Seahorse
  - C. Aerial (lives in air)—Vulture
  - D. Terrestrial (lives on land)—Lion
8. (c) Water that is not in motion and is still at one place is called stagnant water. Stagnant water is the breeding ground for various insects and mosquitoes.
9. (a) Mantle is the thickest layer of the Earth. It extends to a depth of 2900 km. Crust is thinnest layer of the Earth.
10. (c) Here, only statement II is false because it is necessary to drink pure water as impure water makes us ill.
11. (d) Food gets spoiled by attack of bacteria, virus, etc. After getting spoiled, food becomes unhealthy. It should not be eaten.
12. (b) Birds have hollow bones due to which they can easily fly. Hollow bones reduce their weight, so they can easily fly.
13. (b) Statement in option (b) is not correct about food. It can be corrected as: we get food from both plants (e.g. pulses, grains, vegetables, fruits, etc.) and animals. (e.g. meat, milk, egg, honey, etc.)
14. (a) In our mouth, salivary glands are present which produce saliva. Saliva starts the digestion of carbohydrate present in food. So, digestion begins in mouth.
15. (c) As you see in box A-molecules are tightly arranged. It could be a solid.  
In box B-molecules are loosely arranged. It could be a liquid.  
In box C-molecules are very loosely arranged. There is a lot of space between them. It could be a gas. So, box (C) could be nitrogen gas.  
Hence, option (c) is correct,

- 16.** (d) Option (d) is wrongly matched. Mars is known as red planet as it has lot of iron dust which makes it appear red.
- 17.** (d) Backbone consists of 33 small bones. It joined to the skull, girdles and ribs. It protects spinal cord.
- 18.** (b) Animals cannot digest the seeds, which they consume and help in the dispersal of seeds. This type by dispersal is called animal dispersal.
- 19.** (a) Axis is an imaginary line running from North pole to the South pole, the spinning movement of the Earth on its axis is called rotation.
- 20.** (c) By cooking food using coal as fuel produce smoke in large amount, which causes air pollution. Tree plantation will help to makes air fresh and non-polluted.
- 21.** (b) Polar bears live in polar region and they have white fur, so they easily blends with snowy background.
- 22.** (a) Goitre is caused due to the deficiency of iodine. Goitre is an enlargement of thyroid gland.
- 23.** (a) The correct matching is
- A. Hinge joint—Elbow
  - B. Ball and Socket—Shoulder
  - C. Pivot—First two vertebrae of backbone
  - D. Gliding—Wrist
- 24.** (b) Aryabhata is an artificial satellite. It is man-made and first Indian satellite.
- 25.** (c) Some foods get easily spoiled in warm places. They need low temperature to remain healthy for some more days. So, we need to keep food in refrigerator.
- 26.** (b) The property of floating or sinking of an object depends on its density. Materials that are less denser than water, floats on water, e.g. Feather, wood, etc.
- 27.** (a) Statement (III) and (IV) are false. They can be corrected as
- III. Liver is the largest gland.
  - IV. Respiratory system includes lungs, nose and trachea (wind pipe).
- 28.** (d) Removal of top fertile layer of soil is called soil erosion. It can be caused by wind, water, deforestation, forest fire, etc.
- 29.** (a) Option (a) is wrongly matched, as Sun is the only source of solar energy and by burning of wood, we get heat energy.
- 30.** (d) As the crops mature, farmers cut down it. This is called harvesting. It can be done by hand or by using sickle or by using machine called harvester.
- 31.** (b) Sedimentation and filtration are used to remove insoluble impurities. Chlorination is used to purify water while distillation used to remove soluble impurities.
- 32.** (c) Cardiac muscles are involuntary and striated. They work throughout our lifetime without getting tired.
- 33.** (a) Bacteria and fungi are decomposers. They eat decaying matter like dead plants and animals.
- 34.** (b) Oxen is called as farmer's friends. It helps the farmer in ploughing the field.

- 35.** (c) Two same poles of magnet repel each other. In option (c), all three magnets are attracted as there is no two same pole is attached.



- 36.** (a) Potato is a edible stem. It have vegetative bud called as eyes by which it grows into a new plant.
- 37.** (b) The Earth's core contains molten rock called magma. When molten magma flows on Earth's surface, it is called as lava.
- 38.** (a) Duck is a bird that can swim also. Webbed feet helps the duck to swims in water.
- 39.** (b) Change which is reversible, is called as physical change. Melting of ice is a physical change as melted ice can be freeze again.
- 40.** (c) A-beri-beri and D-scurvy are wrongly placed. They do not spread from an infected person to healthy person. Hence, should be placed in non-communicable diseases.
- 41.** (a) X represents digestive system. This system helps in digestion of food.  
Y represents respiratory system. This system help in respiration.  
Z represents nervous system. This system helps in control the body actions.
- 42.** (c) P represents wood. Wood floats on water but not stretched and having no shine.  
Q represents coin. Coin neither floats on water nor stretched. It has shine, so it is lustrous.
- 43.** (b) P represents fish, it has scales and it is an aquatic animal. Q represents camel, it does not have scales as it has body covering and it is a terrestrial animal.
- 44.** (b) Both the boxes are equal in weight but box M is placed on a plank provided with wheel, so the frictional force operating here is less as compared to box N. So it will be easier for Rakesh to drag box M as compared to box N.
- 45.** (b) Sea water evaporates and rises into the sky as water vapour (liquid → gas). The water vapour in the clouds condenses to form water droplets and drop on the Earth as rain (gas → liquid).
- 46.** (a) Chemical wastes released by the factory at point S into the river. So, the river water gets contaminated from the S part. The polluted water further flows into T and U part. It will be safest to consume water from R part as the water is not contaminated at this point.
- 47.** (b) Only part B shows the proper balanced diet as it contains fat (cheese), minerals and vitamins (banana and vegetables), carbohydrates (rice), protein (egg and dal).
- 48.** (b) In figure, P represents crust, Q represents mantle and R & S represents core of the Earth. Mantle layer Q contains molten magma which comes out when volcano erupts.
- 49.** (c) Clayey soil has highest water holding capacity. While loamy soil has right water holding capacity and good nutrients for the growth of plants.
- 50.** (b) On side A, we can taste bitterness, while on side B and D, we can taste sour and on side C, we can taste salty or sweet.