



S^OF NATIONAL SCIENCE OLYMPIAD

Level 2

SOLVED PAPERS

5 Years (2014, 2016-2019)

CLASS

4



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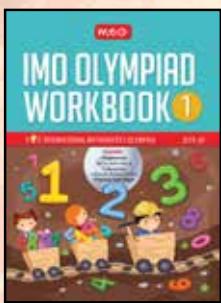
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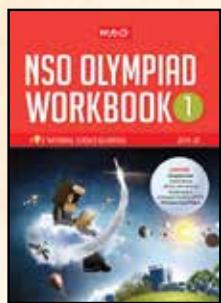
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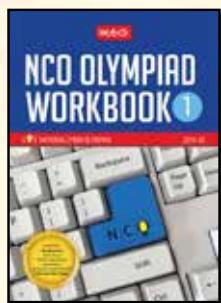
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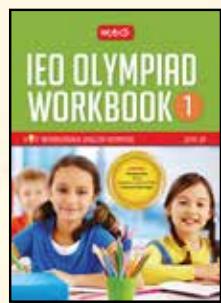
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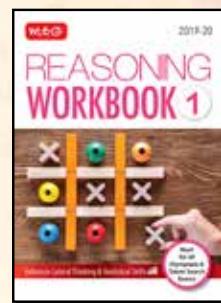
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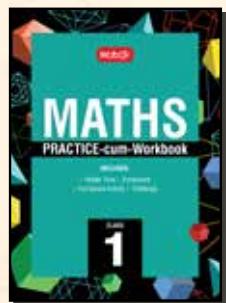
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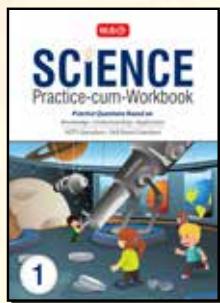
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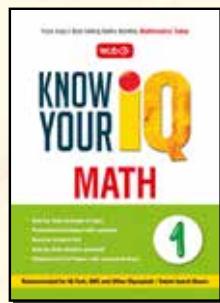
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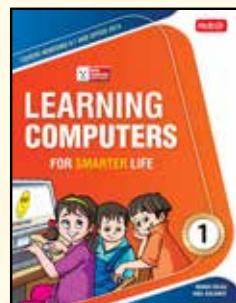
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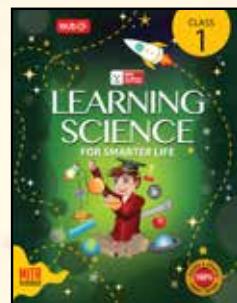
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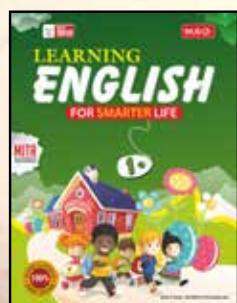
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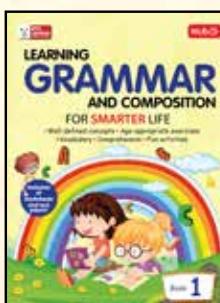
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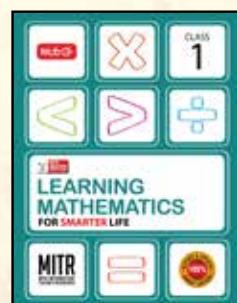
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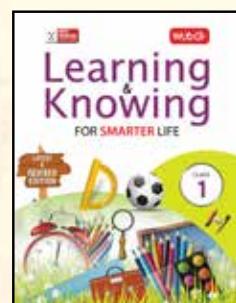
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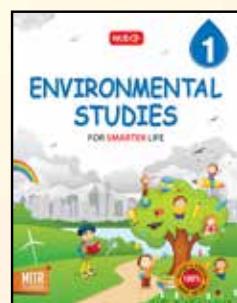
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Learning Mathematics



Learning & Knowing



EVS

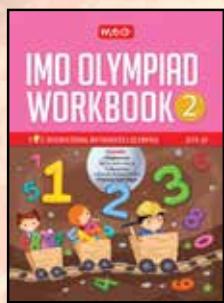
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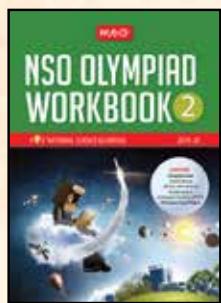
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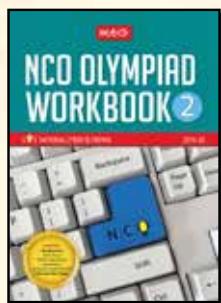
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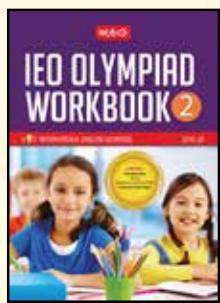
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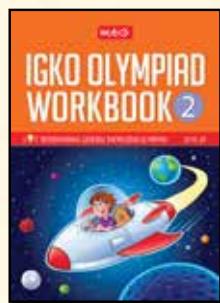
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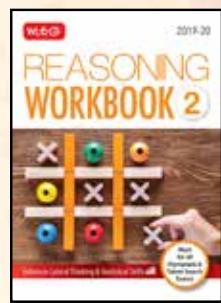
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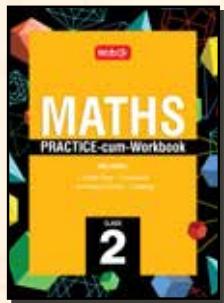
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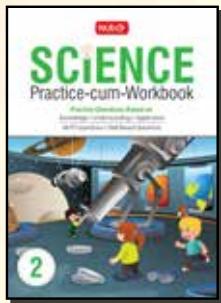
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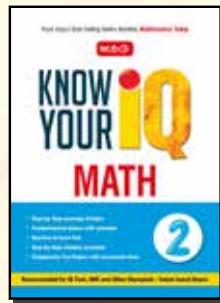
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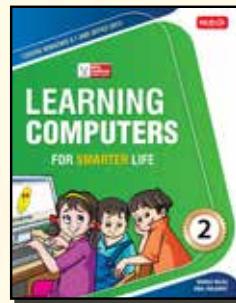
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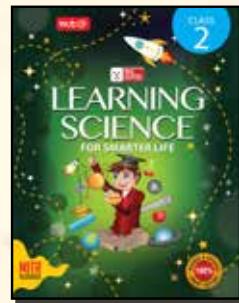
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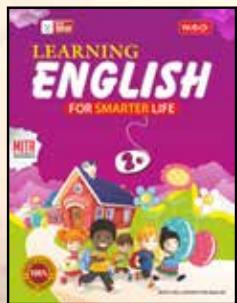
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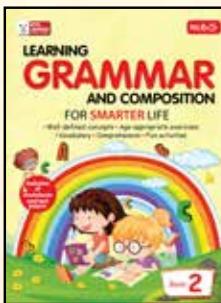
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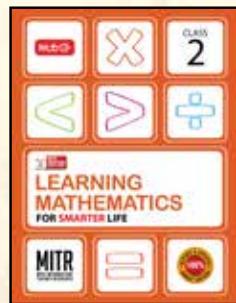
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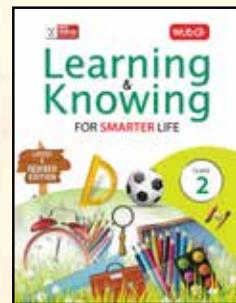
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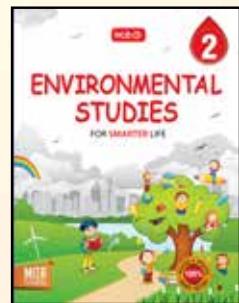
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Learning Mathematics



Learning & Knowing



EVS

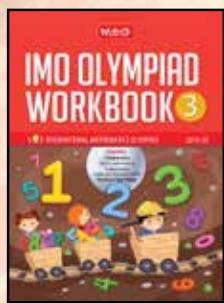
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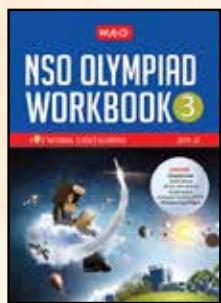
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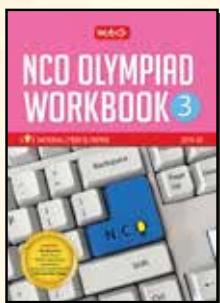
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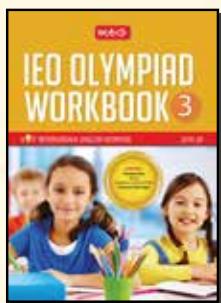
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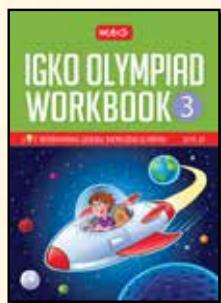
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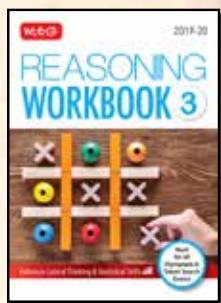
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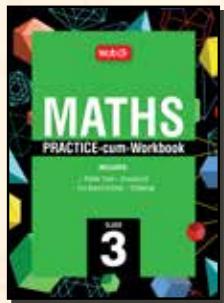
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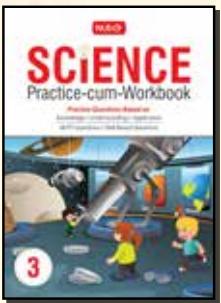
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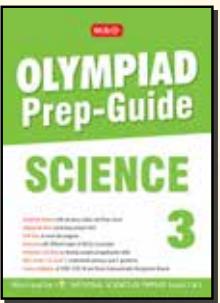
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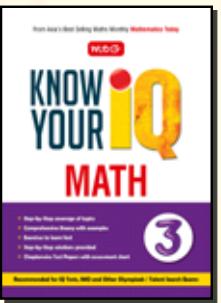
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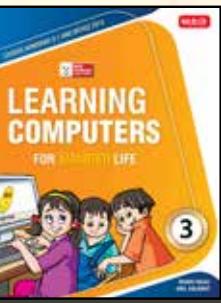
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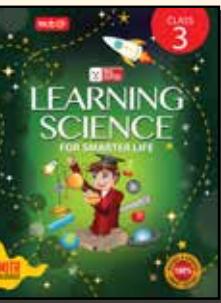
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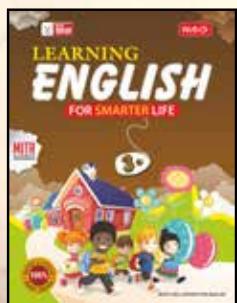
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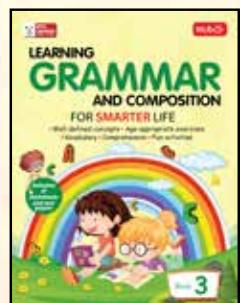
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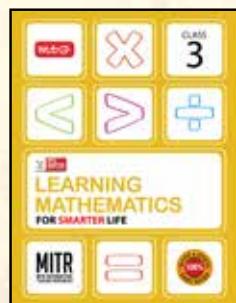
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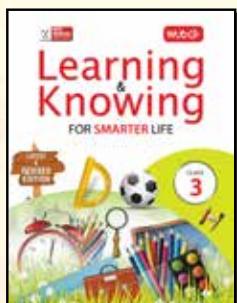
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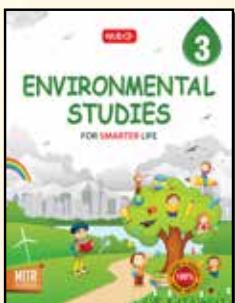
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Learning Mathematics



Learning & Knowing



EVS

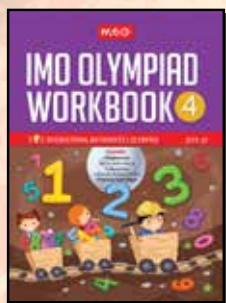
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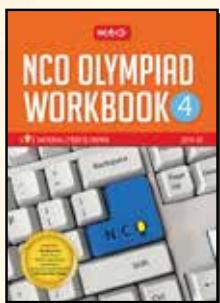
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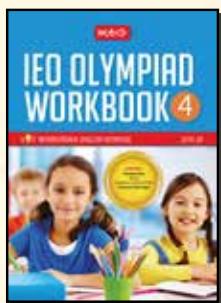
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National Science Olympiad



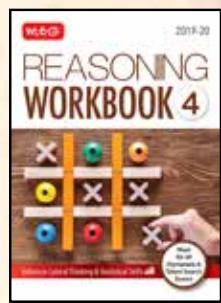
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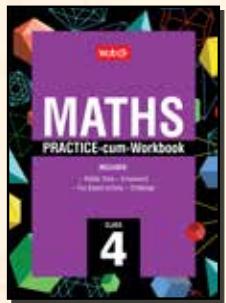
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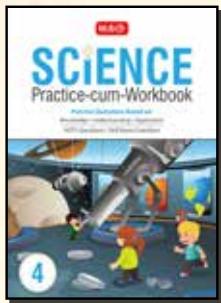
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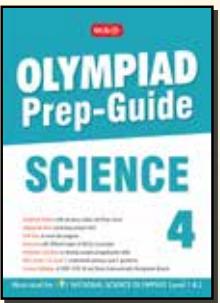
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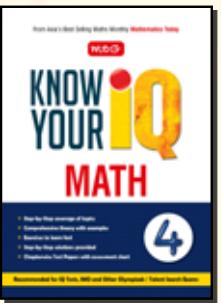
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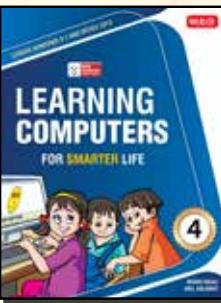
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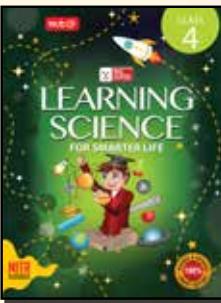
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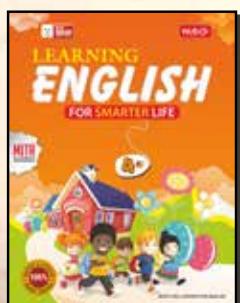
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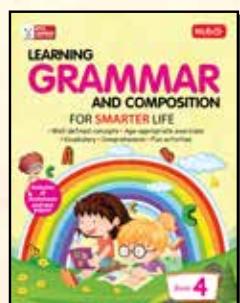
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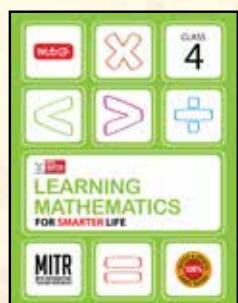
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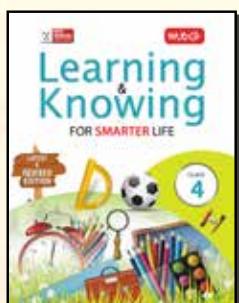
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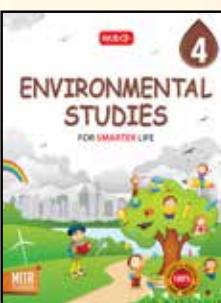
Learning Grammar



Learning Mathematics



Learning & Knowing



EVS

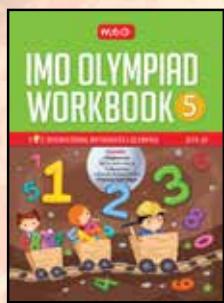
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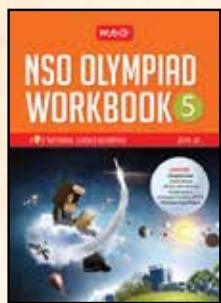
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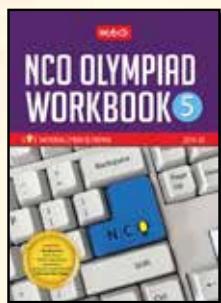
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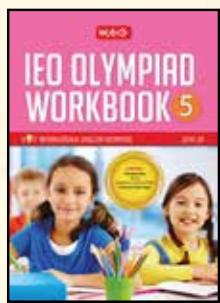
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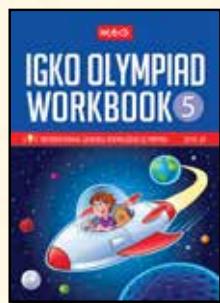
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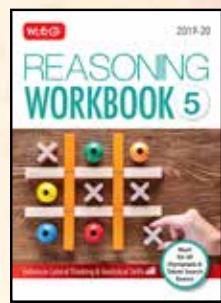
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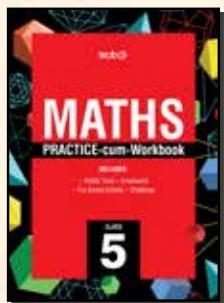
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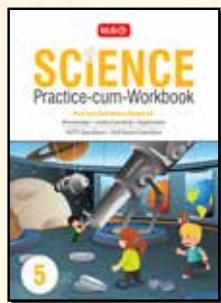
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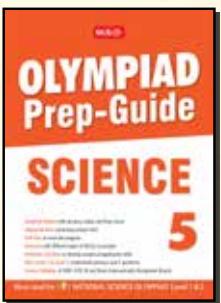
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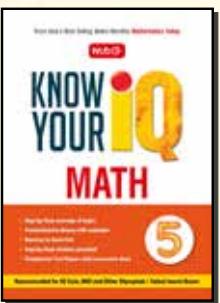
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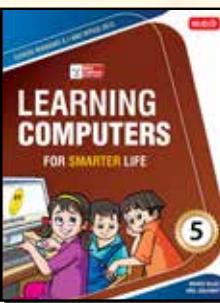
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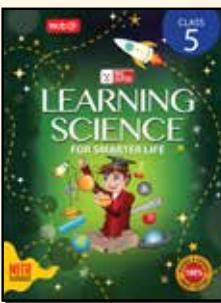
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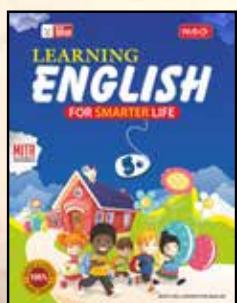
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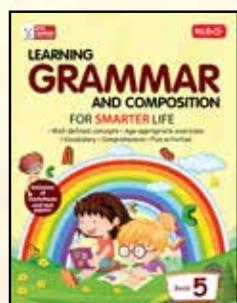
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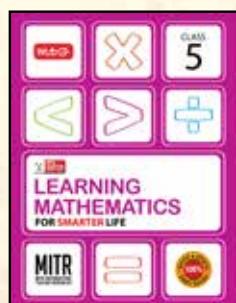
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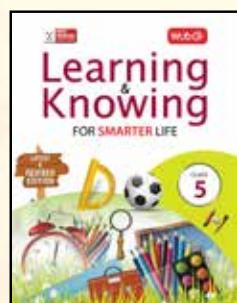
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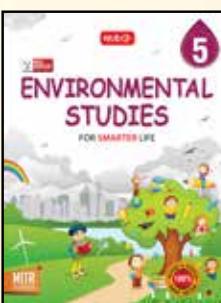
Learning Grammar



Learning Mathematics



Learning & Knowing



EVS

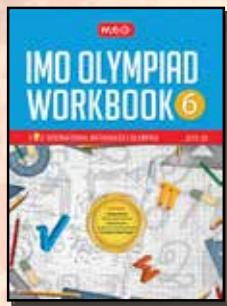
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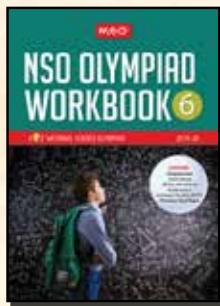
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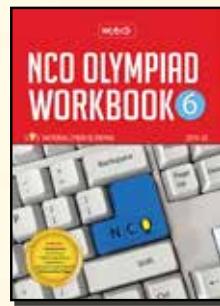
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International Mathematics Olympiad



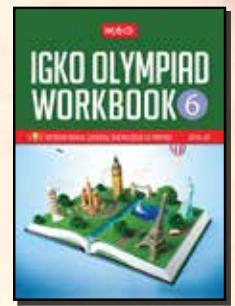
National Science Olympiad



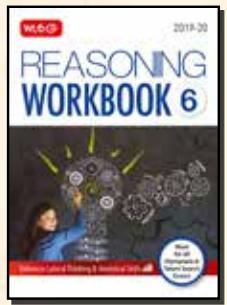
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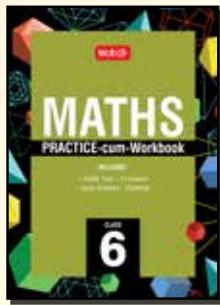
International English Olympiad



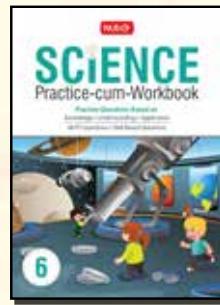
International General Knowledge Olympiad



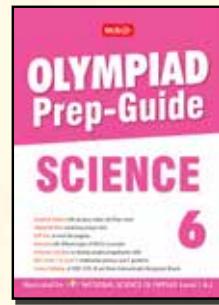
Reasoning



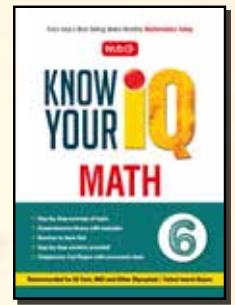
Maths Practice-cum-Workbook



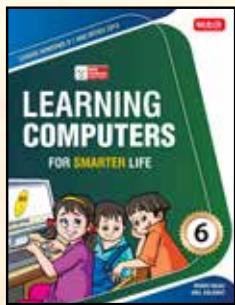
Science Practice-cum-Workbook



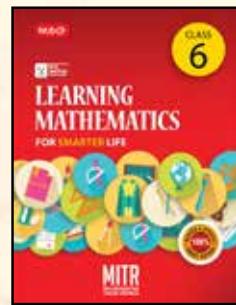
Olympiad Prep-Guide Science



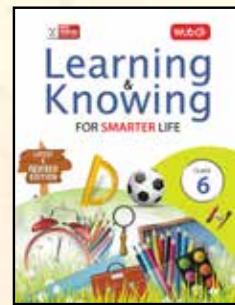
Know Your IQ Math



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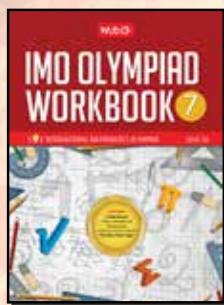
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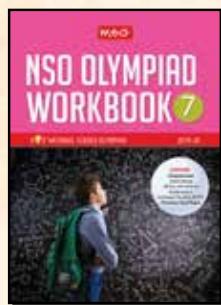
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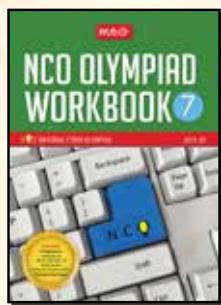
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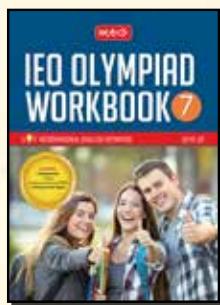
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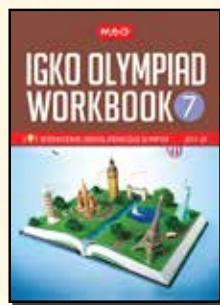
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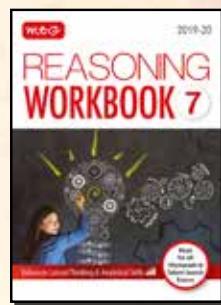
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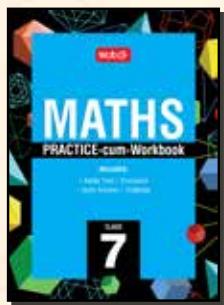
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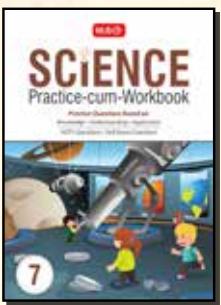
International General Knowledge Olympiad



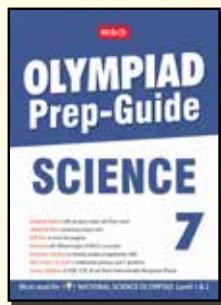
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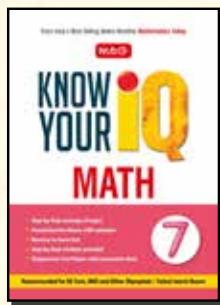
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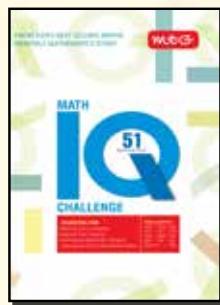
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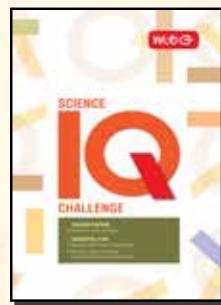
Olympiad Prep-Guide Science



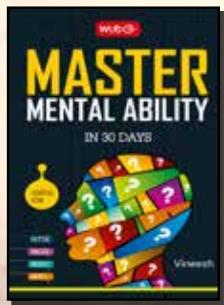
Know Your IQ Math



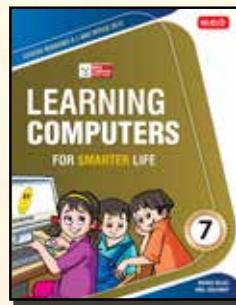
Math IQ Challenge



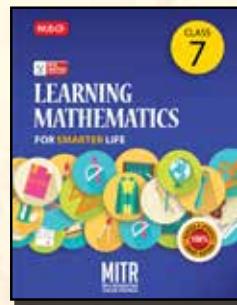
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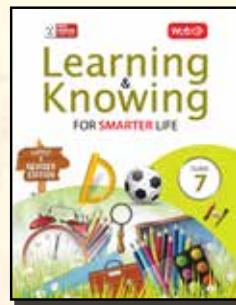
Master Mental Ability in 30 Days



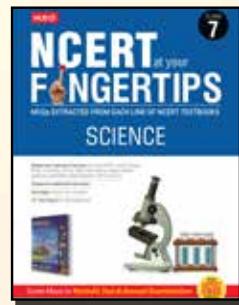
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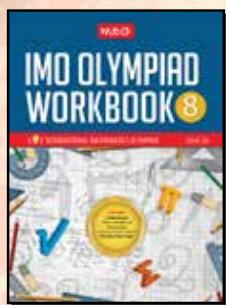
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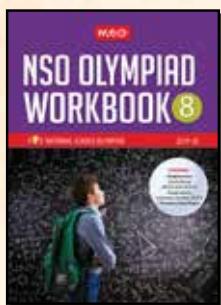
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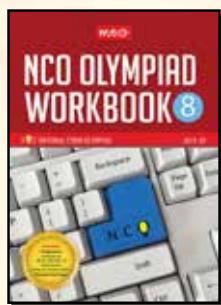
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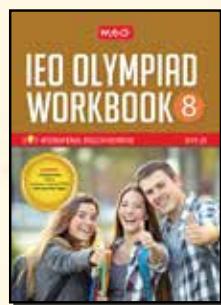
International Mathematics Olympiad



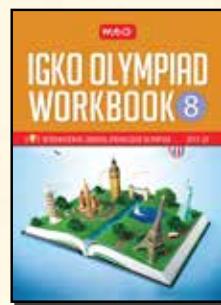
National Science Olympiad



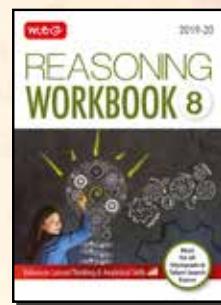
National Cyber Olympiad



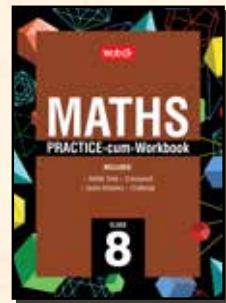
International English Olympiad



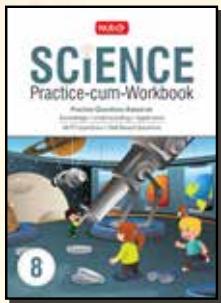
International General Knowledge Olympiad



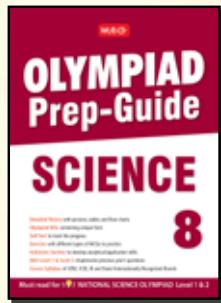
Reasoning



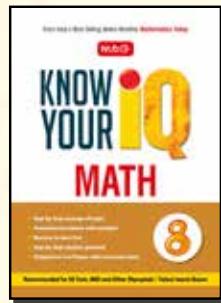
Maths Practice-cum-Workbook



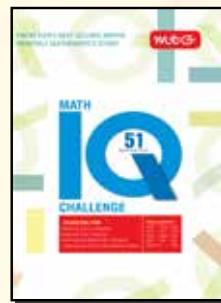
Science Practice-cum-Workbook



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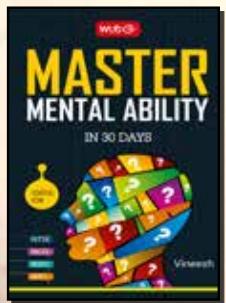
Know Your IQ Math



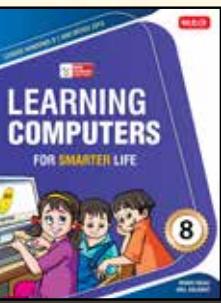
Math IQ Challenge



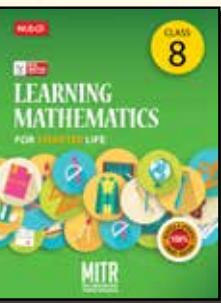
Science IQ Challenge



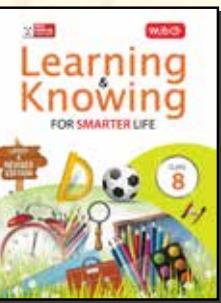
Master Mental Ability in 30 Days



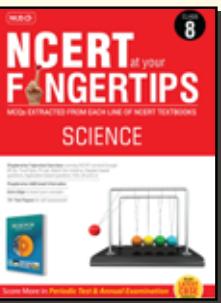
Learning Computers



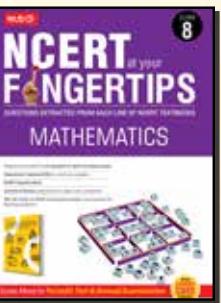
Learning Mathematics



Learning & Knowing



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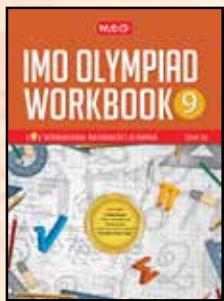
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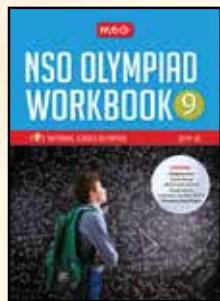
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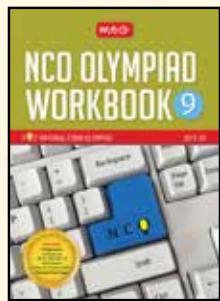
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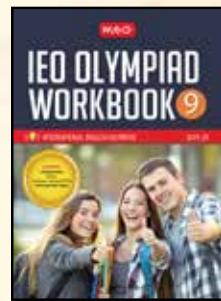
International Mathematics Olympiad



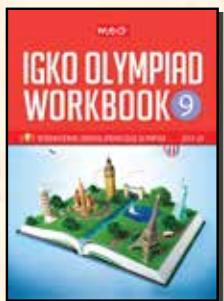
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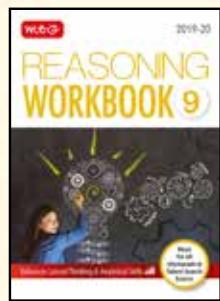
National Cyber Olympiad



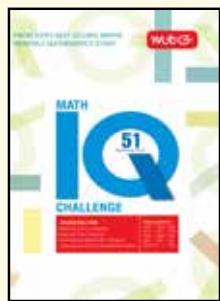
International English Olympiad



International General Knowledge Olympiad



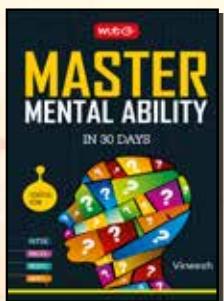
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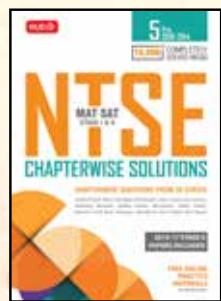
Math IQ Challenge



Science IQ Challenge



Master Mental Ability in 30 Days



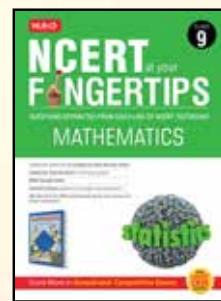
NTSE Chapterwise



NTSE Explorer



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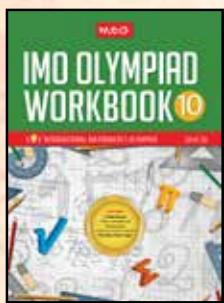
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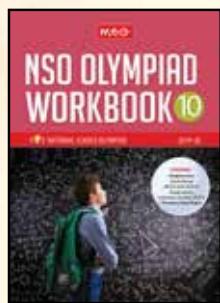
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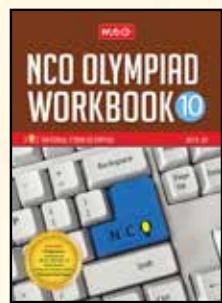
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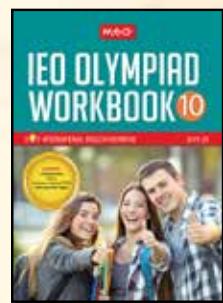
International
Mathematics
Olympiad



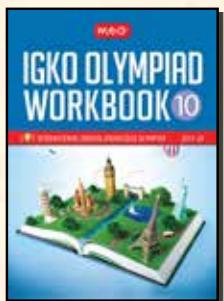
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Olympiad



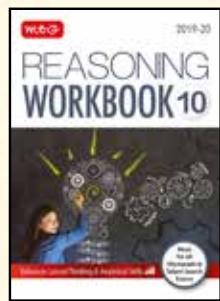
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Olympiad



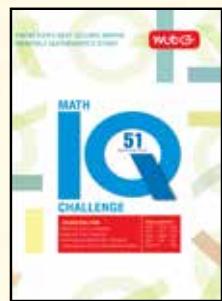
International
English
Olympiad



International
General Knowledge
Olympiad



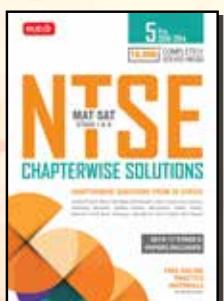
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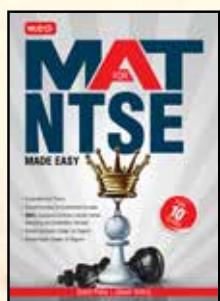
Math IQ
Challenge



Science IQ
Challenge



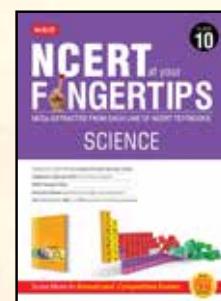
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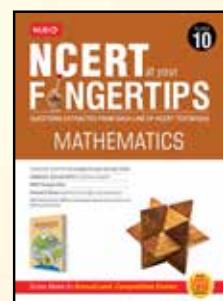
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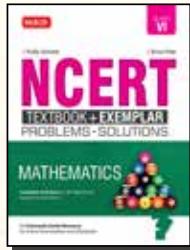
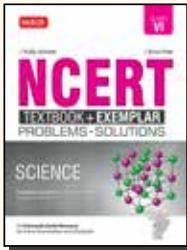
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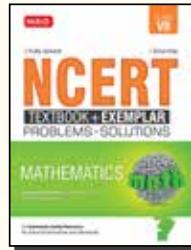
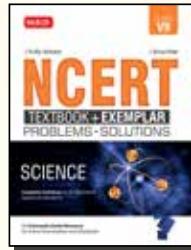
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For Classes 6, 7, 8, 9, 10, 11 & 12

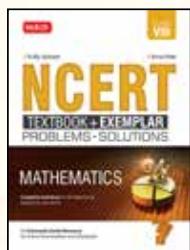
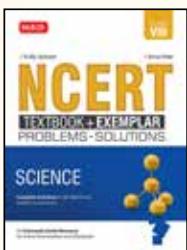
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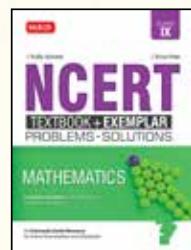
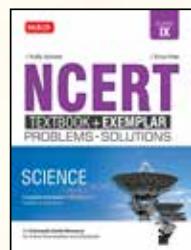
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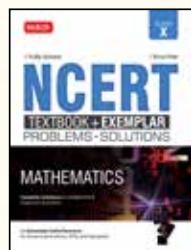
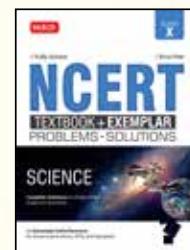
Class 8



Class 9

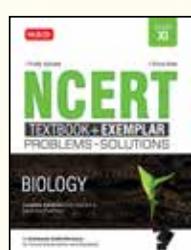
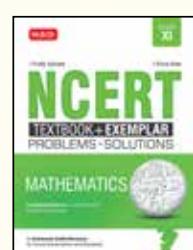
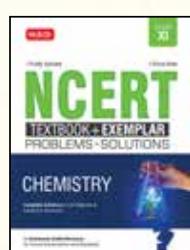
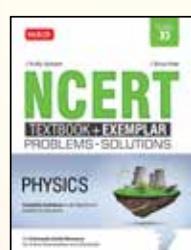


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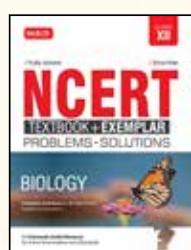
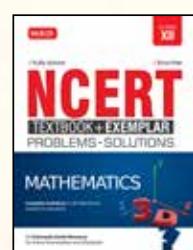
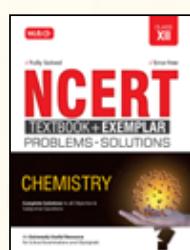
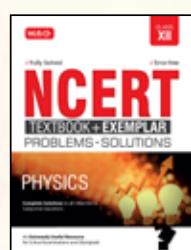
11

Class



12

Class

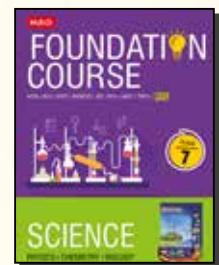
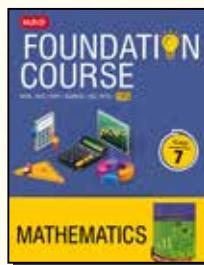
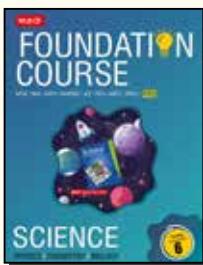
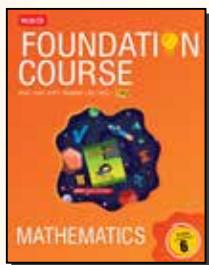


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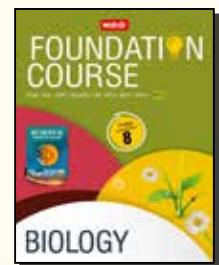
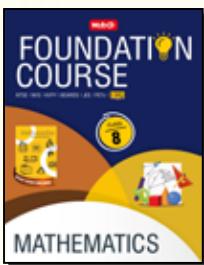
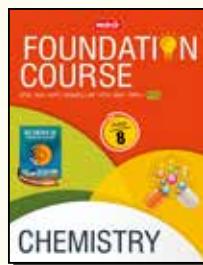
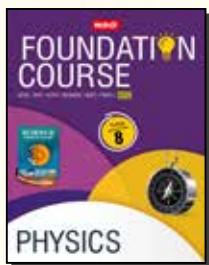
FOUNDATION COURSE

For Classes 6, 7, 8, 9 & 10

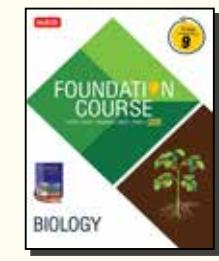
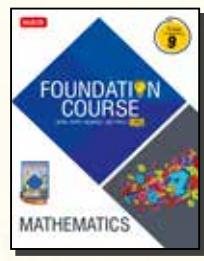
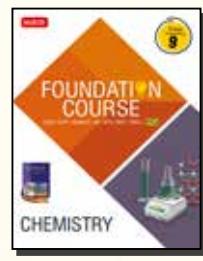
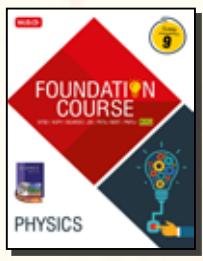
Class 6



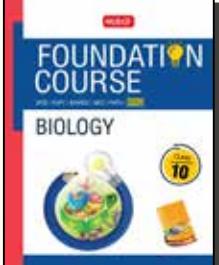
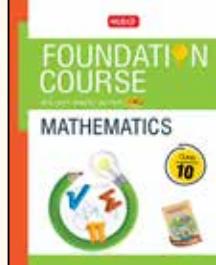
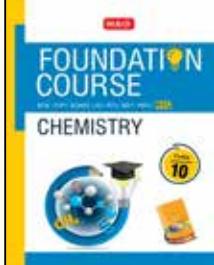
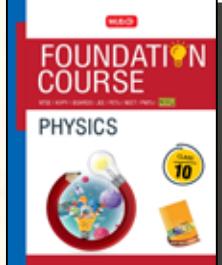
Class 8



Class 9



Class 10

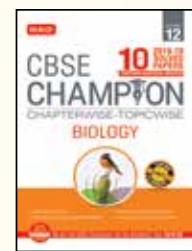
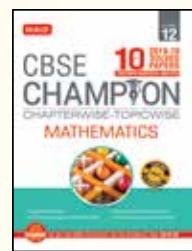
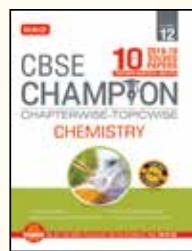
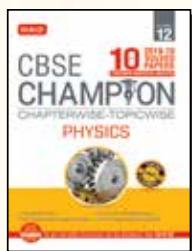
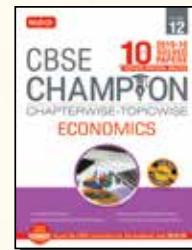
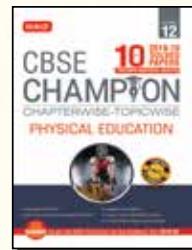
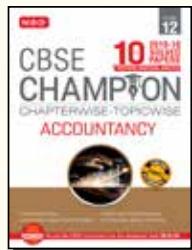
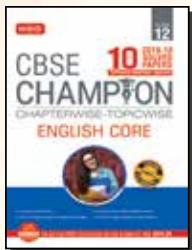


CBSE CHAMPION

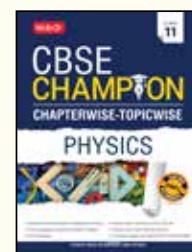
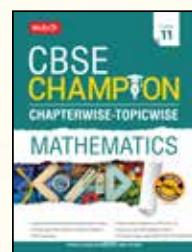
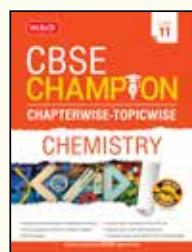
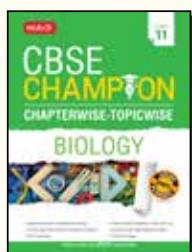
CHAPTERWISE-TOPICWISE

For Classes 10, 11 and 12

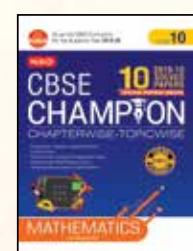
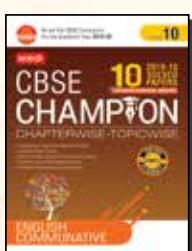
Class 12



Class 11



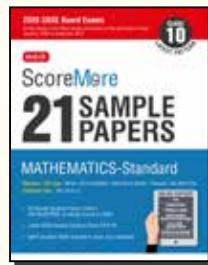
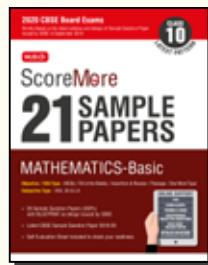
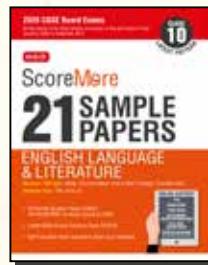
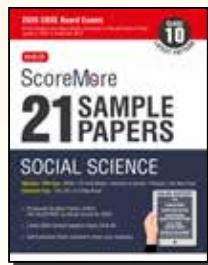
Class 10



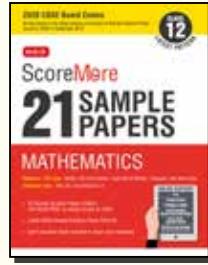
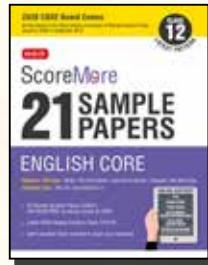
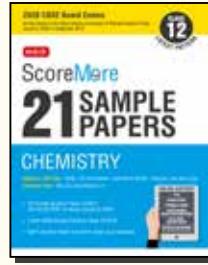
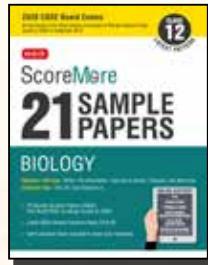
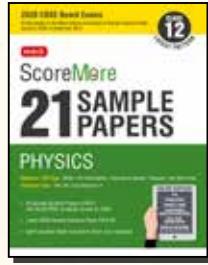
ScoreMore 21 SAMPLE PAPERS

For Classes 10 & 12

Class 10



Class 12

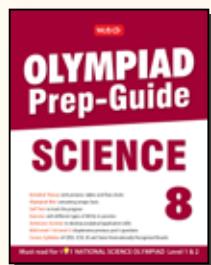
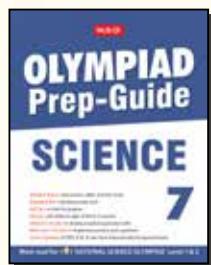
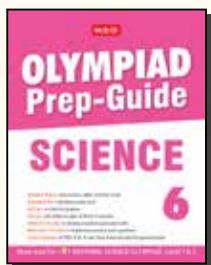
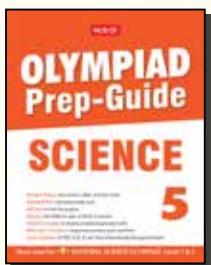
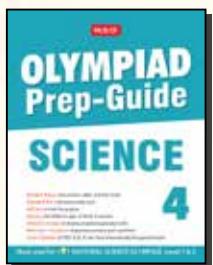
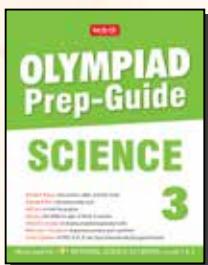


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OLYMPIAD Prep-Guide

For Classes 3 to 8

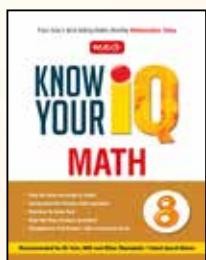
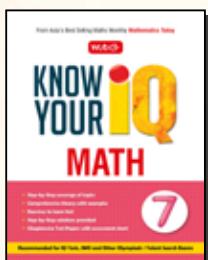
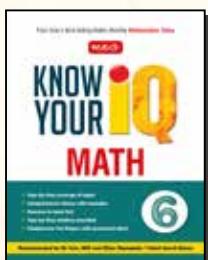
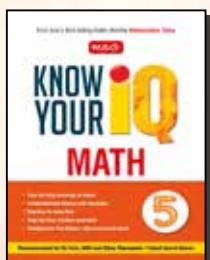
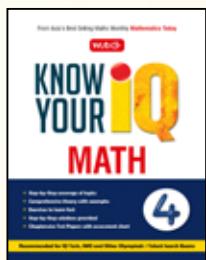
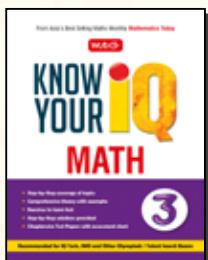
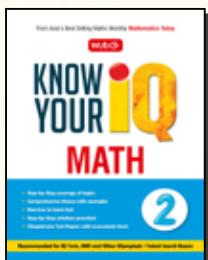
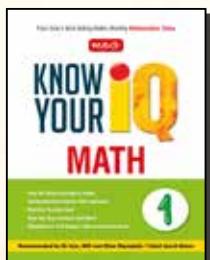


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For Classes 1 to 8

NEW
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KNOW YOUR iq MATH



IMPORTANT INSTRUCTIONS

Exam Date : 9th February 2020

Center of exam : As assigned by SOF on your admit card. Kindly coordinate with your school coordinator for exact information about exam. Write to info@sofworld.org for any enquiry.

Mode of exam : IEO/NSO/IMO level 2 for academic year 2019-20 will be a paper-pen objective test.

Pattern of the exams :

NATIONAL SCIENCE OLYMPIAD

Class	Section	No. of Questions	Marks per Question	Total Marks
3 to 4	Science	30	1	30
	Achievers Section	5	2	10
	Grand Total	35		40
5 to 10	Science	45	1	45
	Achievers Section	5	3	15
	Grand Total	50		60
11 and 12	Physics & Chemistry	25	1	25
	Achievers Section	5	3	15
	Mathematics/Biology	20	1	20
	Grand Total	50		60

INTERNATIONAL MATHEMATICS OLYMPIAD

Class	Section	No. of Questions	Marks per Question	Total Marks
3 to 4	Mathematics	30	1	30
	Achievers Section	5	2	10
	Grand Total	35		40
5 to 12	Mathematics	45	1	45
	Achievers Section	5	3	15
	Grand Total	50		60

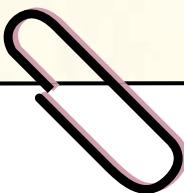
INTERNATIONAL ENGLISH OLYMPIAD

Class	Section	No. of Questions	Marks per Question	Total Marks
3 to 4	Word and Structure Knowledge, Reading	30	1	30
	Achievers Section	5	2	10
	Grand Total	35		40
5 to 12	Word and Structure Knowledge, Reading	45	1	45
	Achievers Section	5	3	15
	Grand Total	50		60



CLASS 4

Contents



- ☛ NSO - Level-2 (2014)
- ☛ NSO - Level-2 was an online exam. (2015)
- ☛ NSO - Level-2 (2016)
- ☛ NSO - Level-2 (2017)
- ☛ NSO - Level-2 (2018)
- ☛ NSO - Level-2 (2019)



LEVEL - 2

Year 2013-14

MENTAL ABILITY

1. In a parking, there were 18 bicycles and 115 cars. After an hour, $\frac{2}{5}$ of the cars left in the parking. How many vehicles were left in the parking?

A. 64 B. 69 C. 87 D. 97

2. Find a number which is a multiple of 7 between 50 and 100, which can be divided by 6 and leaves no remainder. The sum of the digits of the number is 12.

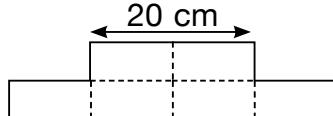
A. 91 B. 84 C. 77 D. 63

3. Mohit turns clockwise 270° and faces north-east in the end. Which direction was Mohit facing at first?

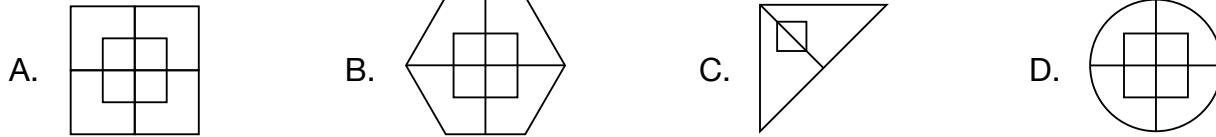
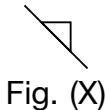
A. South B. South-East C. South-West D. West

4. The given figure is made up of 6 identical rectangles. If its perimeter is 108 cm, find the breadth of each rectangle.

A. 28 cm
B. 14 cm
C. 7 cm
D. 10 cm



5. Select a figure from the options in which Fig. (X) is exactly embedded as one of its part.



6. Which of the following sets of numbers are the factors of 56?

A. 2, 4, 6, 14, 28 B. 2, 4, 8, 14, 28 C. 3, 4, 7, 8, 14 D. 4, 7, 12, 28, 56

7. 628 is _____ more than the quotient of 1467 and 3.

A. 139 B. 146 C. 151 D. 167

Space for Rough Work

8. How many letters have exactly one line of symmetry?

- A. 5
- B. 2
- C. 3
- D. 4

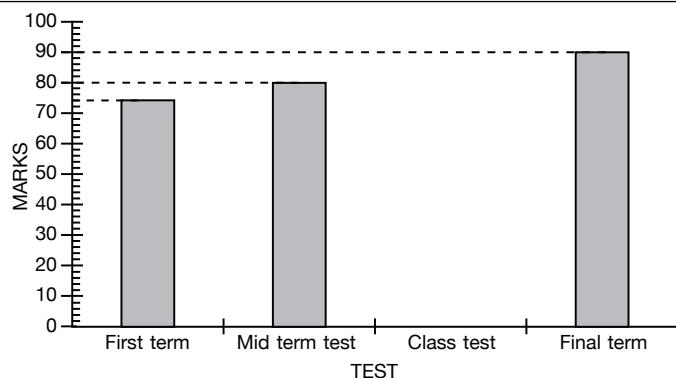


9. During a one-day camp, the children were actively participating in all the activities and rested during the 2 half-hour breaks and an hour lunch break. The camp started at 08 : 30 and ended at 15 : 45. How long were the children actively participating in the camp activities?

- A. 3 hrs 20 mins
- B. 5 hrs 15 mins
- C. 6 hrs 20 mins
- D. 8 hrs 27 mins

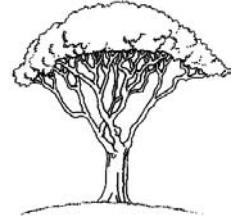
10. The graph shows Gaurav's marks for Mathematics. If Gaurav's total score was 336, how many more marks did he score in class test than in first term?

- A. 14
- B. 2
- C. 6
- D. 18



SCIENCE

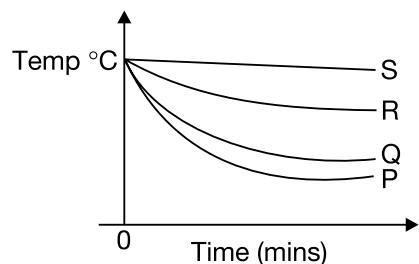
11. The branches of some trees grow over a wide area to _____.



- A. lose as much water as possible
- B. get as much sunlight as possible
- C. get as much rainwater as possible
- D. provide a home to as many insects and birds as possible

12. Arpit carried out an experiment to find out which kind of container is best for keeping the food hot. He put the same amount of food into 4 containers made of different materials which were of the same size and thickness and placed them in the same external condition. The result of his experiment was recorded on the graph as shown.

Based on results, which container, P, Q, R or S, is the best for keeping the food hot?



- A. Container P
- B. Container R
- C. Container S
- D. Container Q

Space for Rough Work

13. What could be the possible consequence if Water Hyacinth grows too quickly in a pond?

- A. Plants like Lotus and Lily would grow rapidly and will eventually increase in number.
 - B. Plants like Hydrilla and Tape Grass would not grow and will eventually die.
 - C. Plants like Wolffia and Pistia would show reduced growth as Water Hyacinth will occupy a large surface area of pond.
 - D. Both B and C
-

14. A boy is running down the stairs at a constant speed. Which of the following is true regarding the amount of potential energy and kinetic energy?

- A. Kinetic energy increases and potential energy decreases.
 - B. Potential energy increases and kinetic energy decreases.
 - C. Potential energy decreases and kinetic energy remains unchanged.
 - D. Kinetic energy decreases and potential energy remains unchanged.
-

15. What is common among the given planets?

Jupiter, Saturn, Uranus and Neptune

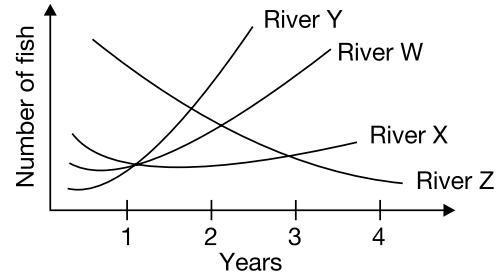
- | | | | |
|--------------------------------------|--|---------------|---------------|
| 1. They are made up of frozen gases. | 2. They are made up of rocks and iron. | | |
| 3. They are neither hot nor cold. | 4. They all have Moons. | | |
| A. 1 and 4 | B. 2 and 3 | C. 2, 3 and 4 | D. 1, 3 and 4 |
-

16. Which of these events are associated with the land breeze?

- 1. Wind blows from areas of high pressure to areas of low pressure.
 - 2. Cool air blows from the sea to the land.
 - 3. Land cools faster than the sea.
 - 4. Warm air rises over the land.
- | | | | |
|---------------|------------|------------|------------------|
| A. 2, 3 and 4 | B. 1 and 3 | C. 2 and 3 | D. 1, 2, 3 and 4 |
|---------------|------------|------------|------------------|
-

17. Study the given graph. Which river is most likely to be situated near an industrial area?

- A. River W
- B. River X
- C. River Y
- D. River Z

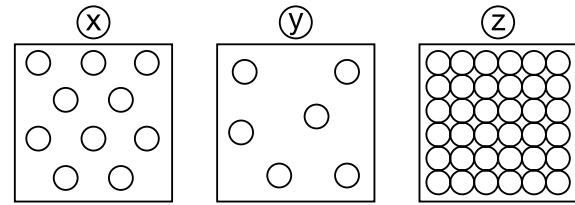


Space for Rough Work

18. Refer the given diagram showing three states of matter and select the correct option to answer the questions that follow:

- (a) Which of the states of matter has definite volume but not shape?
- (b) Which of the states of matter is the most compressible?

- | | |
|----------|----------|
| a | b |
| A. z | x |
| B. x | z |
| C. x | y |
| D. z | y |



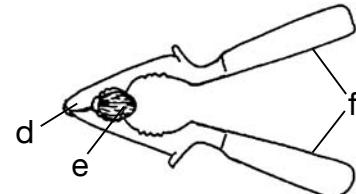
19. Which of these is the correct classification of biodegradable and non-biodegradable objects?

- | Biodegradable | Non-biodegradable |
|----------------------|--------------------------|
| A. Table cloth | Paper |
| B. Styrofoam cup | Wooden log |
| C. Potato skin | Glass bottle |
| D. Glass bottle | Potato skin |

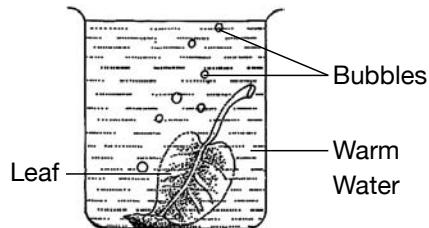
20. The given diagram shows a nutcracker.

Which one of the following tabulates the load, effort and fulcrum correctly?

- | d | e | f |
|------------|----------|----------|
| A. Effort | Load | Fulcrum |
| B. Fulcrum | Load | Effort |
| C. Load | Effort | Fulcrum |
| D. Fulcrum | Effort | Load |



21. Rajeev put a leaf he had just plucked, into a beaker of warm water as shown. He noticed bubbles coming out of the leaf. He noticed more bubbles on the lower surface of leaf. Which of the following is the correct explanation for this?



- A. Photosynthesis can take place on the lower surface of the leaf.
- B. There are more stomata on the lower surface of the leaf.
- C. The leaf is transporting sugar to the lower surface of the leaf.
- D. Carbon dioxide enters the leaf from the upper surface and oxygen comes out from the lower surface.

Space for Rough Work

22. Which of these is INCORRECT about roughage?

- A. It helps in making blood.
- B. It helps in repairing the damaged parts of the body.
- C. It helps the body to get rid of undigested food.
- D. Both A and B

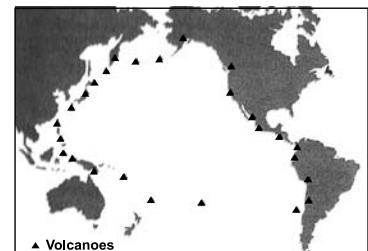
23. The process by which some birds keep their eggs warm by sitting on them is known as _____.

- A. Hatching
- B. Moultting
- C. Incubation
- D. Metamorphosis

24. The given map shows some of the world's volcanoes.

What conclusion can be drawn from the map?

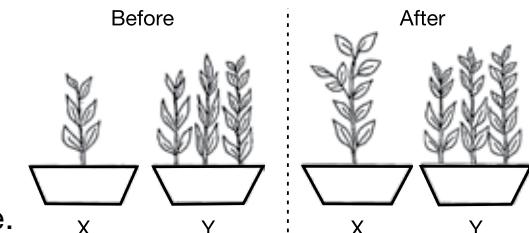
- A. Volcanoes occur on only one continent.
- B. Volcanoes are affected by climate.
- C. Volcanoes are concentrated in certain areas.
- D. Volcanic belt occurs across a huge land mass on Earth



25. Silvy left two pots, X and Y, having green plants near her window for a week.

Based on the given diagrams of plants, which of the following statements could be true?

1. The plant in X grows faster than the plants in Y.
2. The plants in Y compete for nutrients and space.
3. The plant in X makes food but the plants in Y do not.

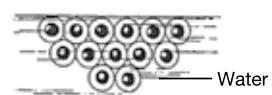


- A. 1 and 2
- B. 1 and 3
- C. 2 and 3
- D. 1, 2 and 3

26. Select the INCORRECT statement regarding air.

- A. Air is a mixture of many gases- nitrogen (78%), oxygen (21%) and others including carbon dioxide (1%).
- B. Near the ground there is more air, hence air pressure is the least.
- C. The oxygen in the air is required for burning things.
- D. When a balloon is overfilled with air, the air pressure inside becomes greater than the air pressure outside and it bursts.

27. The given diagram shows eggs of an animal 'X'. Identify animal 'X' among the following.



- A.
- B.
- C.
- D.

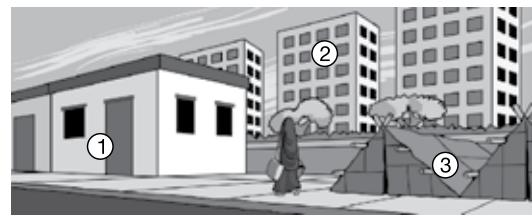
Space for Rough Work

28. Some food items were tested with iodine. All were tested negative except _____.

- A. Potato B. Eggs C. Chicken D. Prawn
-

29. The given houses can be grouped into _____.

- A. Portable and temporary houses
B. Moveable and portable houses
C. Temporary and permanent houses
D. Permanent and skyscraper houses



30. The movements of the hot and cold air set up a convection current. This explains why _____.

- A. An air conditioner is always placed near the top of the wall.
B. A heater is always placed as low as possible in room
C. The back of a refrigerator is often painted black.
D. Both A and B.

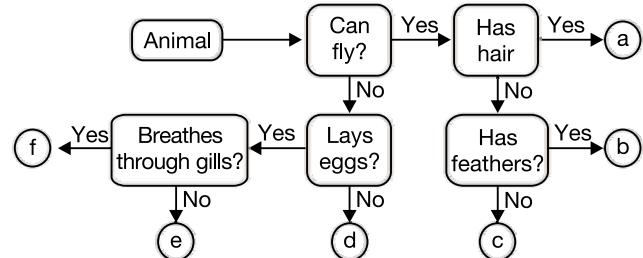
ACHIEVERS SECTION

31. Read the following sentences with blanks in them. Select the option which correctly fills up the blanks in any two sentences.

- (a) _____ provide door to door service.
 (b) _____ carries country's largest amount of bulky goods like coal, cement, food grains, fertilizers, petroleum, automobiles, etc. from mines to industries and from industries to the areas of consumption.
 (c) _____ is a better mode of transportation in reference to cross-continental transfers.
 (d) _____ is very useful at the time of natural or any other calamities for saving people or supplying goods.
 (e) Indian _____ service has the largest network in the world.
 A. c - Railways, e - Postal
 B. c - Water transport, d - Air transport
 C. b - Inland waterways, e - Telephonic
 D. b - Air transport, a - Roads
-

32. Study the given flow chart and select the correct match of any three letters with respective animals.

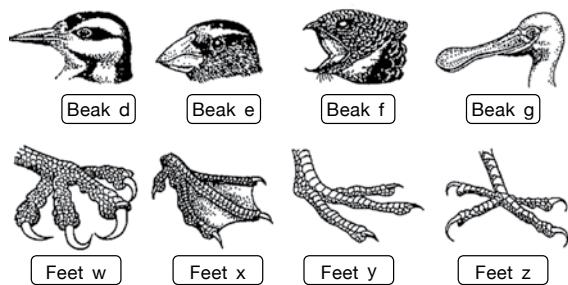
- A. a - Bat, e - Ostrich, f - Goldfish
 B. d - Pigeon, c - Cockroach, e - Human
 C. b - Bat, e - Ostrich, f - Cockroach
 D. a - Pigeon, b - Human, d - Goldfish



Space for Rough Work

33. Vaishali saw a bird hunting for insects by drilling its beak into trees. Which type of beak and feet would the bird have?

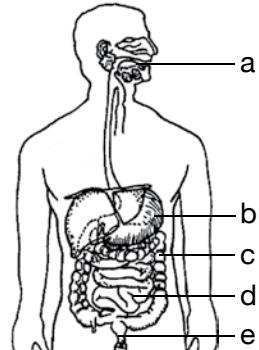
- A. e and y
- B. d and z
- C. g and w
- D. f and x



34. Refer the given figure showing digestive system and select the option to answer the questions that follow:

1. Where does the digestion of food begin and end respectively?
2. In which labelled parts, the acid and the enzymes break the food?

- | 1 | 2 |
|---------|---|
| A. b, e | c |
| B. a, d | b |
| C. c, d | e |
| D. a, d | c |



35.

- Harish said "I can smell paneer tikka. Wow! It is really delicious!" He had used his sense of 'd' and 'e' before making the statement.
- A blind person use his sense of 'f' whenever he reads.
- Namita said "The cover of this story book is smooth and colourful". She used her sense of 'g' and 'h'.

Select the correct option regarding the senses being used in above given passage.

- A. Sense of 'd' and 'e' are used to taste and feel a hot cup of coffee.
- B. Either of the senses 'g' or 'h' has the same function as sense 'f'.
- C. Sense 'g' and 'h' are used to distinguish between pleasant and loud sound.
- D. All of these.

Space for Rough Work



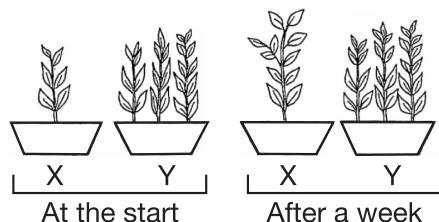
LEVEL - 2

Year 2015-16

SCIENCE

1. Swati left two similar pots, X and Y, having green plants near her window for a week which she used to water regularly. Based on the given diagrams, which of the following statements could be true?

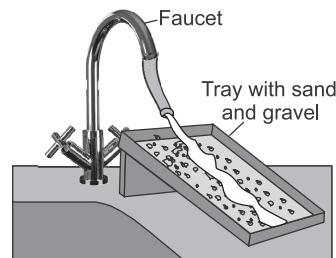
1. The plant in X grows faster than the plants in Y.
 2. The plants in Y compete for nutrients and space.
 3. The plant in X gets insufficient sunlight and air.
- A. 1 and 2 only B. 1 and 3 only
 C. 2 and 3 only D. 1, 2 and 3



2. Two students designed the experiment shown here to study soil erosion.

A steady stream of water flows from the faucet into the tray holding sand and gravel. The water forms a channel by eroding some of the sand and gravel.

How can the students increase the amount of sand and gravel being eroded?



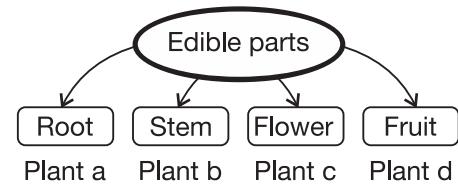
- A. By increasing the water temperature B. By adding coarse gravel to the tray
 C. By increasing the tilt of the tray D. By reducing the amount of flowing water

3. Select the action which involves a force different from the other three.

- A. Stretching a spring B. Kicking a football
 C. Pressing a button on keyboard D. Shoving a friend

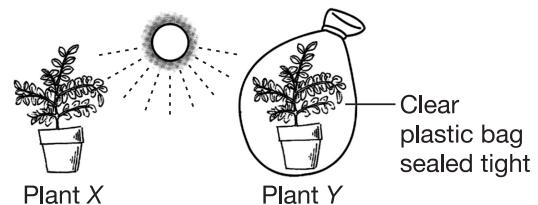
4. Different plants have different edible parts as shown in the classification chart. Which one of the following can be a, b, c and d?

a	b	c	d
A. Onion	Ginger	Cabbage	Carrot
B. Carrot	Turmeric	Broccoli	Coconut
C. Turnip	Radish	Cauliflower	Potato
D. Radish	Onion	Cabbage	Ginger



5. Two similar pots with similar plants were set up as shown in the figure. Both pots were left in the garden and watered daily with the same amount of water. What will happen to the plants X and Y after a month?

- A. Both plants X and Y will flower, but plant X will have more flowers than plant Y.
 B. Plant X will grow taller than plant Y because plant Y will not get sunlight.
 C. Plant Y will become bushy and its stem will become woody while plant X will remain as it is.
 D. Plant Y will wither due to lack of air while plant X will grow normally.



SPACE FOR ROUGH WORK

6. Which of these leaves is most likely to be from a desert plant?

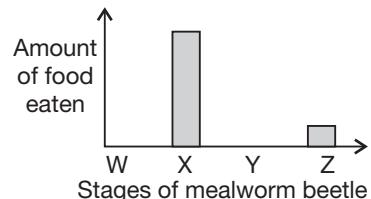


7. Read the given statement and select the option that correctly fills the blanks (i), (ii), (iii) and (iv).

The set of temporary teeth has total (i) teeth in which (ii) teeth are absent while the set of permanent teeth has (iii) teeth in each jaw and includes (iv) molars in each jaw.

- A. (i) - 20, (ii) - premolar, (iii) - 16, (iv) - 6 B. (i) - 20, (ii) - premolar, (iii) - 32, (iv) - 12
C. (i) - 32, (ii) - molar, (iii) - 20, (iv) - 6 D. (i) - 32, (ii) - molar, (iii) - 16, (iv) - 12

8. The given graph shows the amount of food eaten by a mealworm beetle at different stages in its life. The stages are not in an order but it is known that stage X comes after stage Y. Select the correct arrangement of different stages of the beetle.



- A. Y → W → X → Z B. Y → Z → W → X C. Y → X → W → Z D. W → Y → Z → X

9. Which one of the following appliances changes electrical energy into both light and sound energy?

- A. Iron B. Room-heater C. Television set D. Tube light

10. Select the option that correctly compares clothes made from natural and synthetic fibres.

Clothes made of natural fibres

- A. Quick drying
B. Non-porous
C. Biodegradable
D. Non-waterproof

Clothes made of synthetic fibres

- Slow drying
Porous
Non-biodegradable
Waterproof

11. Match column I with column II and select the correct option.

Column I

- (a) Cockroach (1) Maggot
(b) Butterfly (2) Caterpillar
(c) Housefly (3) Tadpole
(d) Frog (4) Nymph

Column II

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

SPACE FOR ROUGH WORK

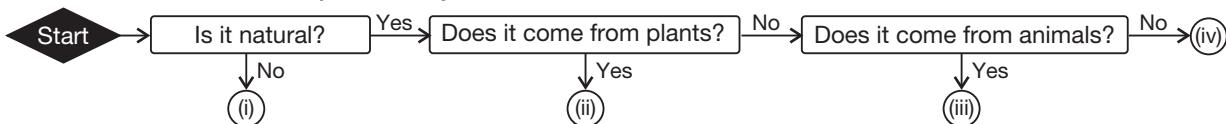
12. Name of some fibres can be obtained by using the letters given in the following box.

I O L C S T K O T N O L

Which of the following objects CANNOT be made using only these fibres?

- A. Rugs B. Curtains C. Raincoats D. Both A and C

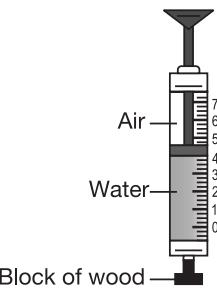
13. Study the given flow chart carefully. Cotton and metal are represented by the numbers _____ and _____ respectively.



- A. (i), (ii) B. (ii), (iii) C. (ii), (iv) D. (iii), (iv)

14. Shruti took a syringe filled with water as shown here. She applied large pushing force on the piston. What can be the level of water in the syringe now?

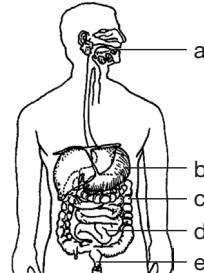
- A. 0 mL
B. 2 mL
C. 4 mL
D. 6 mL



15. Refer to the given figure showing digestive system.

Where does the digestion of food begin and end respectively?

- A. b, e
B. c, d
C. a, d
D. a, e



16. A croton plant has colourful leaves. Which one of the following statements is true regarding the croton plant?

- A. It can make food because it has yellow pigments in its leaves.
B. It can make food because its mature stems can perform photosynthesis.
C. It can make food because its leaves contain chlorophyll.
D. It is a parasitic plant and cannot make food, hence it obtains food from other green plants.

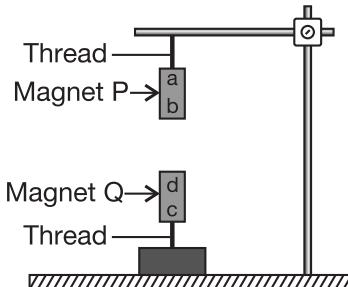
17. What is common between the fifth and eighth planet of our solar system?

1. They are made up of frozen gases. 2. They are made up of rocks and iron.
3. They are neither hot nor cold.
4. They are called interior planets or inner planets.
- A. 1 only B. 2 and 3 only C. 2, 3 and 4 only D. 1, 3 and 4 only

SPACE FOR ROUGH WORK

18. Akshat arranged two magnets in a set up and the outcome is shown in the given figure. Select the option that correctly identifies the poles a, b, c and d of the magnets.

a	b	c	d
A. North	South	North	South
B. South	North	North	South
C. North	North	South	South
D. South	North	South	North



19. Which of these events are associated with the land breeze?

- A. Wind blows from areas of high pressure to areas of low pressure.
- B. Cool air blows from the sea to the land.
- C. Land gets heated up faster than the sea.
- D. Warm air rises up over the land.

20. In modern times, _____ determine the clothing of people living at a particular place.

- A. Cultural beliefs
- B. Climate
- C. Easily available fibres
- D. Both A and B

21. The method of food preservation which involves _____ is hidden in the given word grid.

- A. Adding excess sugar
- B. Adding excess salt
- C. Heating the food for a period then cooling suddenly
- D. Storing food in microbe free containers

A	G	S	S	J	D	Q	C	P
B	K	U	A	P	R	R	A	I
L	J	E	L	L	Y	I	N	G
M	N	G	T	P	I	T	N	C
U	Z	A	I	S	N	V	I	K
R	S	R	N	N	G	U	N	L

22. Megha observed the Moon on 5th December and drew its sketch as shown. What will be the shape of the Moon on 2nd January?



5th December

- A.
- B.
- C.
- D.

23. Match column I with column II and select the correct option.

Column I

- (p) Sand
- (q) Gravel
- (r) Clay
- (s) Humus
- (t) Topsoil

Column II

- (1) Tiny stones
- (2) Soil erosion
- (3) Fine powder
- (4) Heavy and sticky when wet
- (5) Makes the soil fertile

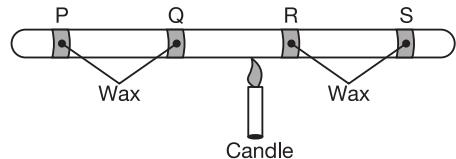
- A. p - (4), q - (3), r - (1), s - (5), t - (2)
- B. p - (3), q - (1), r - (4), s - (5), t - (2)
- C. p - (3), q - (4), r - (1), s - (5), t - (2)
- D. p - (5), q - (2), r - (1), s - (4), t - (3)

SPACE FOR ROUGH WORK

24. The movements of the hot and cold air set up a convection current. This explains why ____.

- A. An air conditioner is placed at the ceiling end of the wall.
- B. A heater is placed as low as possible in room.
- C. The back of a refrigerator is often painted black.
- D. Both A and B

25. Study the given diagram carefully. Candle wax was coated at different parts P, Q, R and S of the metal rod. Which one of the following is the correct order in which the wax would melt?



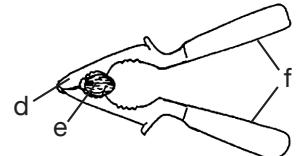
- A. P, Q, R, S
- B. S, R, Q, P
- C. R, Q, P, S
- D. R, Q, S, P

26. In order to save our environment, we should prefer to use items with which of the following signs?

- A. (Recycling)
- B. (Hazardous)
- C. (Peace)
- D. (Religious)

27. The given diagram shows a nutcracker. Identify the labels d, e and f and select the option that correctly identifies the components denoted by these labels in other simple machines.

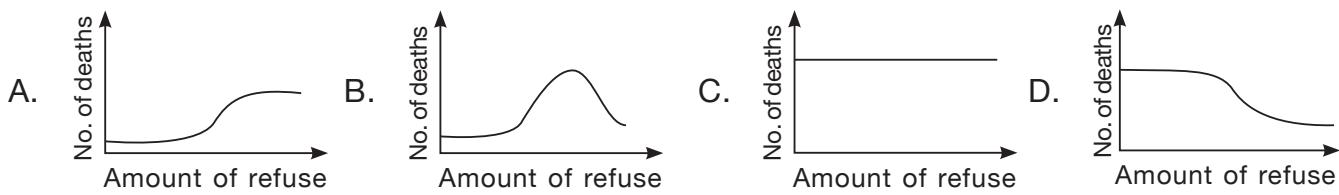
- A. d - The bend that joins two arms of a tong
- B. f - The screw that fixes the two parts of a scissor together
- C. e - The elbow of our hand
- D. f - The front clawed end of a bottle opener



28. Harshit wanted to find out among the four locations - playground, science laboratory, school garden and the bus stop outside his school - which is the most polluted. He placed four glass tiles smeared with petroleum jelly at the four locations for the same period of time for one day and recorded his observation. However, his teacher told him that his experiment was not reliable because he did not ____.

- A. Wet the glass tiles
- B. Use tiles made of different materials
- C. Repeat the experiment over a few days
- D. Examine the tiles with hand lens

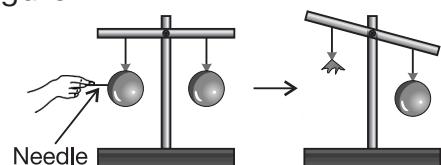
29. Which of the following graphs shows the relationship between the number of deaths of organisms in a canal and the amount of refuse in it?



SPACE FOR ROUGH WORK

30. Which of the following can you deduce from the given figure?

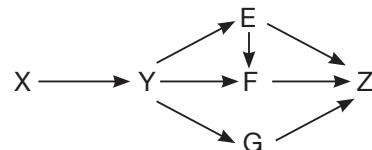
- A. Air moves things.
- B. Air has mass.
- C. Air has no fixed volume.
- D. Air occupies space.



ACHIEVERS SECTION

31. Refer to the given food web. If all the F organisms are killed, which one of the following will happen?

- A. E would have to find new sources of food.
- B. Z would have more competitors for food.
- C. E would decrease in number.
- D. Z would eat more of E and G.



32. Rohit carried out an experiment to test the hardness of objects 1, 2 and 3. The results of the experiment are shown here.

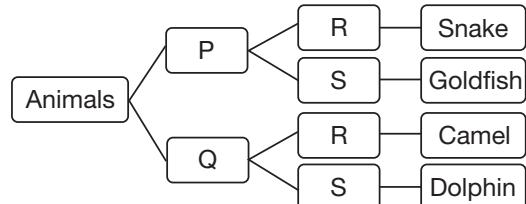
	Scratch Test	Results	Scratch Test	Results
(i)				
(iii)				

Which of the following shows the correct order of hardness of 1, 2 and 3, starting from the hardest?

- A. 1, 2, 3
- B. 1, 3, 2
- C. 2, 3, 1
- D. 3, 1, 2

33. Some animals are grouped according to their similarities in the given classification chart. Which option gives the correct information for characters P, Q, R and S respectively?

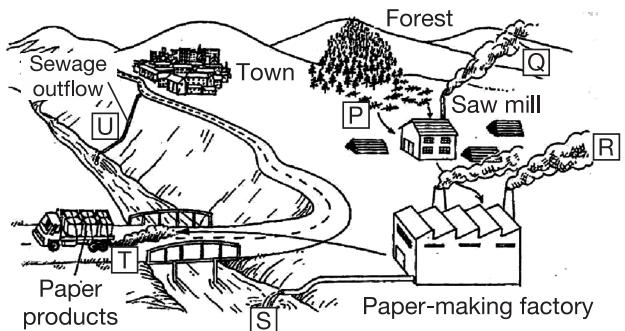
P	Q	R	S
A. Live in water	Live on land	Animals with hair	Animals with scales
B. Animals with hair	Animals with scales	Live in water	Live on land
C. Live in water	Live on land	Animals which give birth to their youngs alive	Animals which lay eggs
D. Animals with scales	Animals with hair	Live on land	Live in water



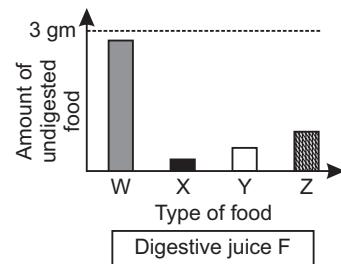
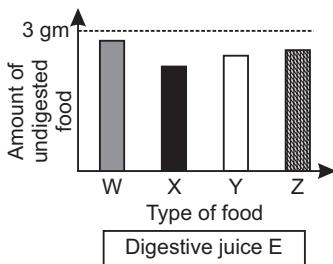
SPACE FOR ROUGH WORK

34. Study the given diagram carefully. Activities occurring at which place could cause water pollution and acid rain respectively?

Water pollution	Acid Rain
A. P and Q	S and U
B. S and U	Q, R and T
C. Q and R	S and T
D. S and R	P, Q and U



35. Rati placed 3 gm each of food W, X, Y and Z in digestive juices E and F for 3 hours. After 3 hours, she recorded the amount of undigested food left in each digestive juice and plotted the graphs as shown below.



Based on the information deduced from the given graphs :

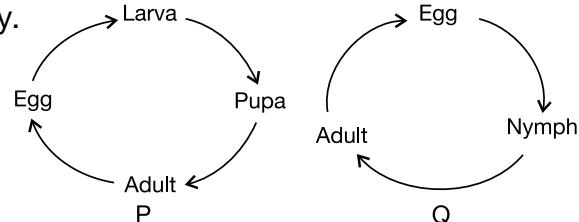
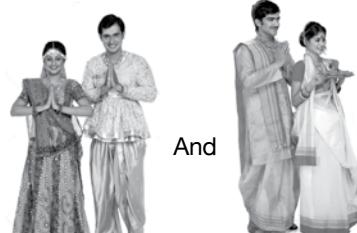
- (i) Which of these foods W, X, Y and Z is rich in dietary fibres?
(ii) If digestive juice E is from saliva then which component in the given foods W, X, Y and Z is being digested?
A. (i) - Z, (ii) - Starch
B. (i) - W, (ii) - Starch
C. (i) - Y, (ii) - Fats
D. (i) - W, (ii) - Fats



LEVEL - 2

Year 2016-17

SCIENCE

1. Refer to the given flow chart and select the INCORRECT option regarding plants P, Q and R.
- P generally grows in soil that is deficient in minerals like nitrogen.
 - Q has special roots that grow above the soil to breathe air.
 - Leaves of R may possess sunken stomata or may be reduced to spines.
 - None of these
- Plants manufacture their own food.
 ↓ Yes
 Plants eat and digest insects. Yes → P
 ↓ No
 Plants grow in marshy areas. Yes → Q
 ↓ No
 Plants grow in desert areas. Yes → R
-
2. Study the two life cycles P and Q, and select the option that correctly identifies the organisms which show these cycles, respectively.
- | P | Q |
|----------------|-----------|
| A. Mosquito | Butterfly |
| B. Lizard | Frog |
| C. Housefly | Cockroach |
| D. Grasshopper | Dragonfly |
- 
-
3. Some food items are shown in the given box.
- 
- There are _____ energy giving foods, _____ body building foods and _____ protective foods.
- 5, 4, 3
 - 4, 4, 4
 - 3, 4, 5
 - 5, 2, 5
-
4. The couples shown in the given picture belong to which states of India respectively?
- Kashmir and Maharashtra
 - Sikkim and Odisha
 - Gujarat and West Bengal
 - Uttar Pradesh and Kerala
- 
- And
-
5. Starting from the first letter, strike out every alternate letter to get the name of a food preservation method and select the correct option.
- RFORSYPIQNLGD
 - PCOARNCNEILNAGI
 - CSETFEGAHMJIKNLGM
 - FRGOHAISOTPIQNRGS

SPACE FOR ROUGH WORK

6. During her summer vacations, Nishtha is going to a place where stilt houses and floods are very common. Which of the following should she preferably pack in her luggage?



A.



B.



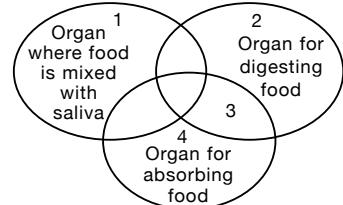
C.



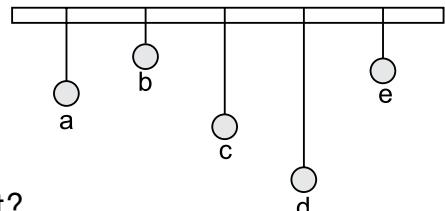
D.

7. Which of the labelled areas in the Venn diagram represents the small intestine?

- A. 1
B. 2
C. 3
D. 4



8. Ravi set up an experiment as shown in the given figure. The figure shows five identical balls being suspended on a rod by strings of different lengths. Ravi then cut all five strings at the same time and the balls were allowed to fall freely to the ground.



Which of these statements holds true for this experiment?

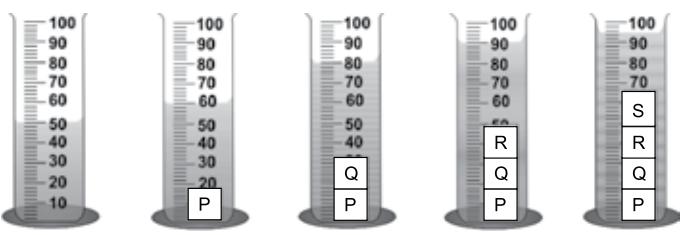
- A. Ball 'b' had the greatest impact on the ground.
B. Ball 'a' had less gravitational potential energy than ball 'c' at the start.
C. Ball 'd' had the most gravitational potential energy at the start.
D. Balls 'a' and 'e' had different amounts of gravitational potential energy at the start due to their different positions along the rod.

9. Four objects P, Q, R and S of different volumes are placed in a measuring cylinder one by one and the subsequent rise in water level is shown in the given figures.

The object with the lowest volume is

A. P

B. Q



C. R

D. S

10. Match column I with column II and select the correct option.

Column I

1. Adaptation for flight
 2. Adaptation for protection from enemies
 3. Adaptation for eating flesh
 4. Adaptation for living in cold region
 5. Adaptation for living in water
- A. 1-(b), 2-(c), 3-(a), 4-(d), 5-(e)
C. 1-(e), 2-(d), 3-(b), 4-(c), 5-(a)

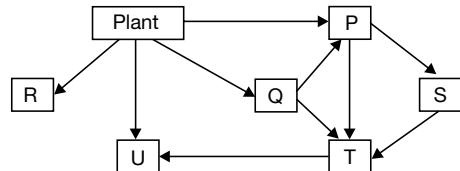
Column II

- (a) Gills
 - (b) Sharp and well developed canines
 - (c) Thick layer of fat under skin
 - (d) Camouflage
 - (e) Hollow bones
- B. 1-(a), 2-(e), 3-(c), 4-(b), 5-(d)
D. 1-(c), 2-(b), 3-(e), 4-(a), 5-(d)

SPACE FOR ROUGH WORK

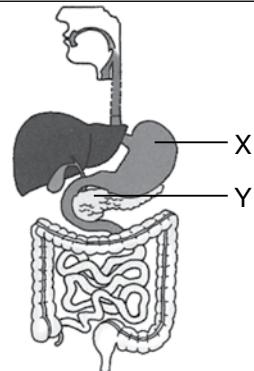
11. In the given food web, P, Q, R, S, T and U are consumers. Which of these consumers are both plant and animal-eaters?

A. P and S B. Q and U
C. R and T D. P and U



12. Refer to the given diagram of human digestive system and select the correct option regarding parts, X and Y.

A. In part X complete digestion of all components of food takes place.
B. If part Y is removed in a person, then he/she will not be able to digest carbohydrates at all.
C. Both X and Y pour their digestive juices in small intestine for digestion of various components of food.
D. Y secretes a digestive juice which is capable of digesting fats, proteins and carbohydrates present in food.



13. Study the given table.

Which of the following can be inferred regarding the two surfaces?

A. Surface X acts like a mirror.
B. Surface Y may act like a mirror.
C. Surface X reflects light better than surface Y.
D. None of these

Surface \ Property	Rough	Shiny
X	✓	✗
Y	✗	✓

14. Four of Mrs. Singh's pupils made statements related to environment.



Which pupil made an INCORRECT statement?

A. Shuchi and Preerna only B. Preerna only
C. Anu and Shweta only D. Shweta only

15. Unscramble the given letters to get the name of an adaptation which is shown by the given animal.



A. LUEBBRB B. AOFAUCMLEG
C. IL GSL D. ETEFRHA

16. X is the largest and fastest spinning planet whereas Y is the brightest planet of our Solar system. Identify X and Y and select the correct option regarding them.

A. X is wider than 18 Earths if kept side by side.
B. Y is called morning or evening star as it is seen at dawn or dusk.
C. X is covered with thick layer of blue green gas.
D. Rings of Y are made up of ice, rocks and dust.

SPACE FOR ROUGH WORK

17. Select the INCORRECT match.
- A. Mangrove - Breathing roots
 - B. Cactus - Photosynthetic stems
 - C. Venus flytrap - Roots trap insects
 - D. Tape grass - Ribbon like narrow leaves

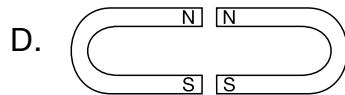
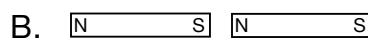
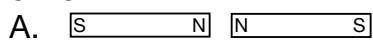
18. Study the given word chop table.

Which of the following sets of boxes will give the names of traditional clothings of Kerala and Korea, respectively?

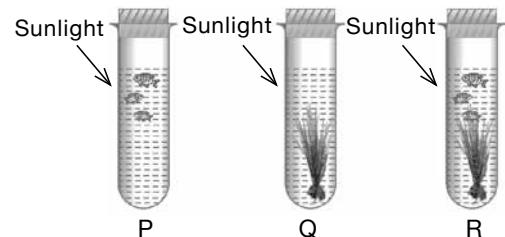
- A. 2 and 8, 4 and 5
- B. 1 and 6, 5 and 3
- C. 7 and 3, 4 and 9
- D. 1 and 7, 2 and 5

1	2	3
MUN	KIM	BOK
4	5	6
KUR	HAN	DU
7	8	9
JACK	ONO	TA

19. The given options show pair of magnets each. Which pair of magnets will attract each other?



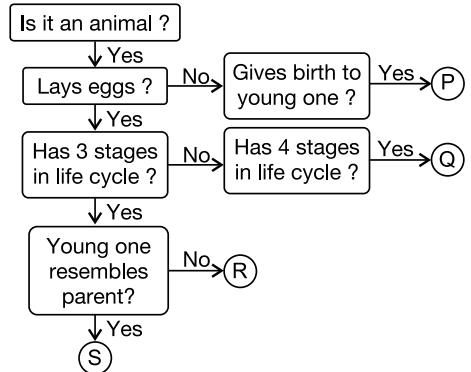
20. Rohit performed an experiment wherein he set up three test tubes as shown in the figure. Select the INCORRECT statement regarding this.



- A. Test tube P will have most carbon dioxide after three hours.
- B. Test tube Q will have least oxygen after three hours.
- C. Organisms in test tube R will survive for a longer time as compared to organisms in test tubes P and Q.
- D. No oxygen will remain in test tube P after some time.

21. Refer to the given flow chart and select the correct option regarding P, Q, R and S.

- A. P could be duck-billed platypus or spiny ant eater.
- B. Q exhibits one non-feeding stage in its life cycle.
- C. R could be frog or hen.
- D. All the stages of the life cycle of S are feeding and S could be beetle or botfly.



22. Select the INCORRECT match from the following.

- A. Vitamin A-Fish oil- Keeps eyes healthy
- B. Iron-Beetroot-Helps in formation of blood
- C. Potassium - Lemon - Necessary for healthy gums
- D. Calcium - Milk - Makes our bones and teeth strong

SPACE FOR ROUGH WORK

23. Study the given word grid carefully. What is the number of natural fibres and synthetic fibres, hidden in the grid?

P	Z	A	K	S	M	P
O	W	C	O	I	B	G
L	W	O	O	L	A	F
Y	Q	T	X	K	N	L
E	C	T	Y	U	T	A
S	N	O	W	R	V	X
T	E	N	Y	L	O	N
E	G	M	E	T	P	K
R	H	D	E	A	L	R

Natural fibres Synthetic fibres

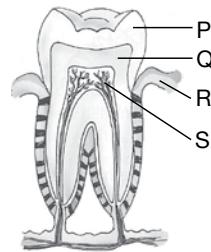
- | | | |
|----|---|---|
| A. | 4 | 2 |
| B. | 2 | 1 |
| C. | 1 | 3 |
| D. | 4 | 3 |

24. Select the activity which is different from the other three based on the types of force involved.

- A. A person climbing up a mountain using rope
- B. Making chapati out of dough
- C. Lifting a heavy bag kept on floor
- D. Drawing water out of well using rope

25. Refer to the given diagram of human tooth and select the correct option regarding its parts P, Q, R and S.

- A. P is the soft, white and shiny part of tooth.
- B. Q is root whereas R is crown of tooth.
- C. S nourishes Q as it contains blood vessels and nerves.
- D. Q is a soft tissue which anchors the tooth inside gums.



26. In which of the following cases, the person is NOT doing any work in terms of science?

- A. Rohan is throwing a ball.
- B. Sukriti is standing while carrying her school bag on her shoulders.
- C. Vidushi is trying to move a tree by pushing it.
- D. Both B and C

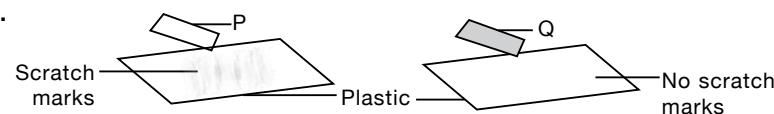
27. The name of which of the following CANNOT be obtained by using the letters given in the box (you can use each letter more than once).

- A. An insect which sucks our blood
- B. A wingless insect
- C. An insect from which honey is obtained
- D. A social insect that destroys wooden items

M	S	U	T	E	W	L	H	F
V	P	N	A	R	I	Q	O	

28. Dinesh wanted to test how hard are the objects made of materials P and Q, so he performed an experiment as shown.

Which of the following shows the hardness of objects P, Q and plastic in the correct order?



- | Hardest | → | Softest | Hardest | → | Softest | | | | |
|---------|---|---------|---------|---------|------------|---|---------|---|---|
| A. P | → | Q | → | Plastic | B. P | → | Plastic | → | Q |
| C. Q | → | Plastic | → | P | D. Plastic | → | P | → | Q |

SPACE FOR ROUGH WORK

29. If Moon was observed on 7th July then, Moon will be observed on _____.

- A. 15th July B. 28th July C. 30th July D. 21st July

30. Manoj crossed out 'mushroom' from the given group because he felt that it did not belong to this group.

Which of the following statements support Manoj's conclusion?

- (a) Mushroom is a plant while the rest are not.
- (b) Mushroom is a fungus while the rest are not.
- (c) Mushroom feeds on decaying things while the rest do not.
- (d) Mushroom cannot make its own food while the rest can.

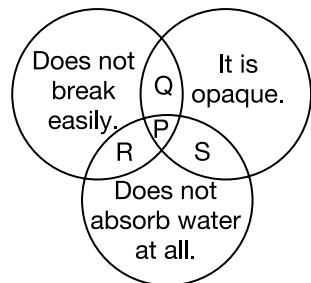
- A. (b) and (c) only B. (a), (b) and (d) only
C. (a), (c) and (d) only D. (b), (c) and (d) only



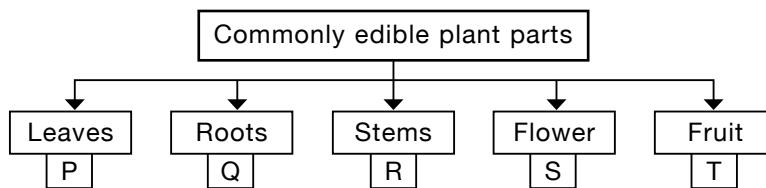
ACHIEVERS SECTION

31. Refer to the given Venn diagram and select the option that correctly identifies P, Q, R and S.

P	Q	R	S
A. Steel tiffin box	Wooden pen stand	Plastic jar	Aluminium foil
B. Spectacles	Butter paper	Wooden door	Raincoat
C. Mirror	Plastic tumbler	Glass bangle	Eraser
D. Frosted glass	Cardboard	Rubber band	Wooden spoon



32. Refer to the given flow chart and select the correct option regarding P, Q, R, S and T.



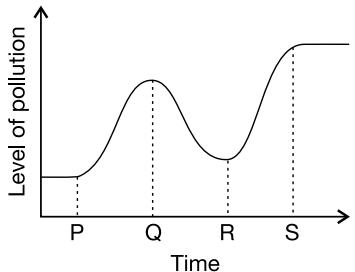
P	Q	R	S	T
A. Tomato	Potato	Okra	Cauliflower	Mustard
B. Spinach	Banana	Carrot	Basil	Clove
C. Radish	Turnip	Lotus	Broccoli	Pumpkin
D. Coriander	Rice	Brinjal	Sugarcane	Lettuce

SPACE FOR ROUGH WORK

33. The given graph shows how the level of pollution changes in an area over a time period.

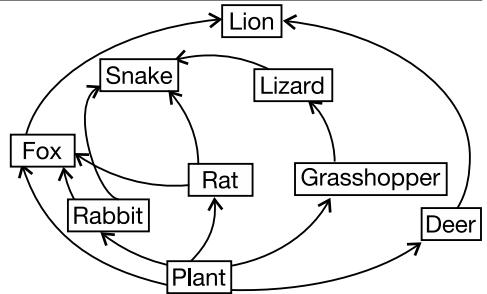
Which of the following can be most likely concluded from the given graph?

- A. Trees were cut in large numbers in that area at point P.
- B. A new factory was set up in the area at point Q.
- C. The interval R-S shows that people started recycling waste and switched to public transport instead of using their personal transports.
- D. None of these

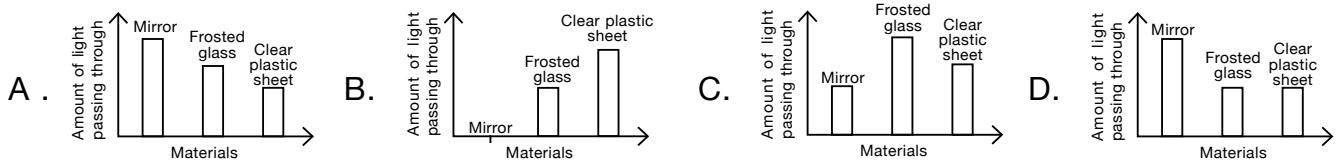


34. Refer to the given food web and select the correct option regarding it.

- A. There are six food chains in the given food web.
- B. Rabbit, rat, grasshopper and deer feed only on plants.
- C. Two animals in this food web feed on both plants and animals.
- D. If fox and deer are removed from the area where this food web is operating, then lion population will increase tremendously.



35. Shweta conducted an experiment to find out the amount of light that can pass through a mirror, a frosted glass and a clear plastic sheet. She shone a torch on these three materials one at a time and used light sensors to measure the amount of light that passed through each of them. Which of the following graphs correctly shows the result of her experiment?



SPACE FOR ROUGH WORK



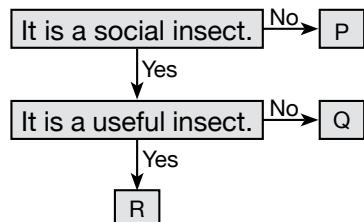
LEVEL - 2

Year 2017-18

SCIENCE

1. Refer to the given flow chart and select the correct option.

P	Q	R
A. Ant	Silkworm	Termite
B. Mosquito	Termite	Honeybee
C. Grasshopper	Silverfish	Housefly
D. Honeybee	Locust	Silverfish



2. Ten male animals, each of type X and Y were living together for last few months in captivity in a well defined area (full of greenery). Other types of animals were not present in this area. Then an animal Z was introduced in this area. After few days, their numbers were counted and tabulated as shown here.

What does this indicate?

X	Y	Z
10	2	1

- A. Z is a carnivore. B. Y is a herbivore. C. X is a herbivore. D. All of these

3. Read the given paragraph.

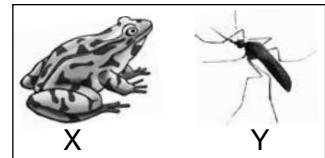
X and Y are the two planets of our Solar System. X is the hottest planet and is often referred to as Morning or Evening star. Surface of Y is covered by red dust so it appears red and is often referred to as Red planet.

Identify planets X and Y and select the correct option regarding them.

- A. X has one moon whereas Y has sixty two moons.
 B. Y is an inner planet made up of rocks and iron whereas X is an outer planet made up of gases.
 C. Indian name of X is *Shukra* whereas that of Y is *Mangal*.
 D. Both X and Y have rings around them but Y is the fastest spinning planet.

4. Identify the animals shown in the picture. Find out what is common between them and select the correct option.

- A. Both X and Y lack backbone.
 B. Both X and Y have four stages in their life cycles.
 C. Both X and Y lay eggs in water.
 D. Newly hatched young ones of both X and Y resemble adults respectively.



5. Parts near equator have _____ marked seasons because _____.

- A. No, they face the Sun for six months continuously
 B. Clearly, they face the Sun for six months continuously
 C. No, they retain at almost same angle to the Sun throughout the year
 D. Clearly, they retain at almost same angle to the Sun throughout the year

6. Avinash grouped plants on the basis of their habitats. By mistake, he placed one wrong plant in each group. Identify the odd member of each group and select the correct option.

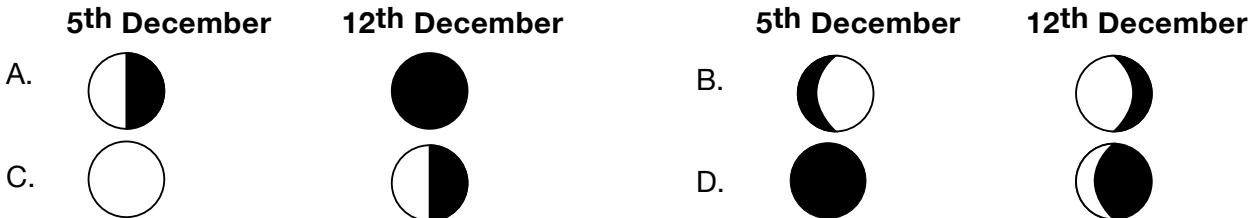
Group I : Duckweed, *Hydrilla*, *Opuntia* Group II : Banyan, Mango, *Acacia*

Group III : Barrel cactus, Joshua tree, *Vallisneria*

- A. Duckweed in group I is incorrectly placed and should be replaced with arrowhead plant.
 B. Mango in group II should be interchanged with Joshua tree in group III.
 C. *Opuntia* in group I should be interchanged with *Vallisneria* in group III.
 D. Banyan in group II is incorrectly placed and should be replaced with gulmohar.

SPACE FOR ROUGH WORK

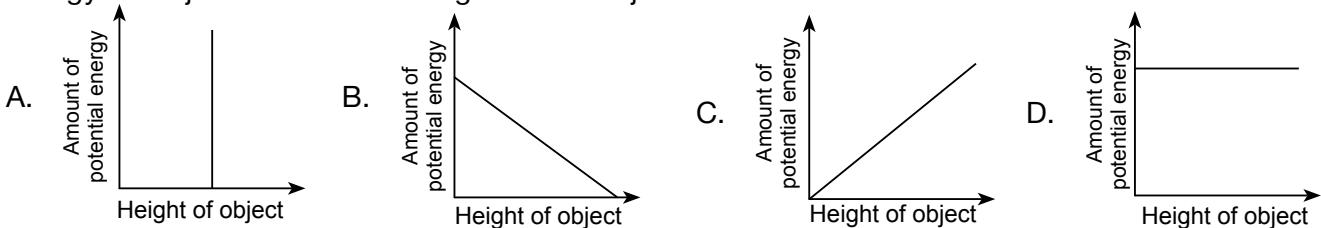
7. Select the option that on unscrambling gives the name of a clothing item worn in summers.
A. RFMUFL B. WASTERE C. OSTHSR D. NADGCRIA
8. Radhika observed crescent Moon on 28th November. Which phases of Moon will she observe on 5th December and 12th December, respectively?



9. Study the given relationship and select the option that satisfies the same relationship.

Fenugreek : Mint :: Carrot : Beetroot

- A. Coriander : Spinach :: Radish : Turnip B. Chickpea : Sugarcane :: Ginger : Turmeric
C. Lettuce : Cabbage :: Broccoli : Potato D. Basil : Cauliflower :: Onion : Zamikand
10. Which one of the following graphs shows the correct relationship between the amount of potential energy an object has and the height of the object?



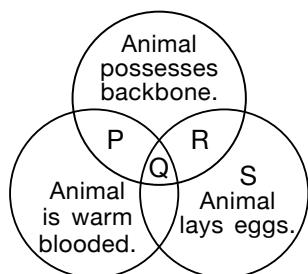
11. The name of which of the following CANNOT be obtained by using the letters given in the box? (You can use each letter more than once.)

H E F O D R N S A W T I

- A. It is formed by condensation of atmospheric water vapour on cold exposed surfaces like leaves of plants.
B. It is formed when atmospheric water vapour condenses and freezes on a surface which cools past dew point.
C. It is a form of precipitation occurring in plains and leading to floods at times.
D. It forms when thunderstorm updrafts are strong enough to carry water droplets above the freezing level causing them to freeze.

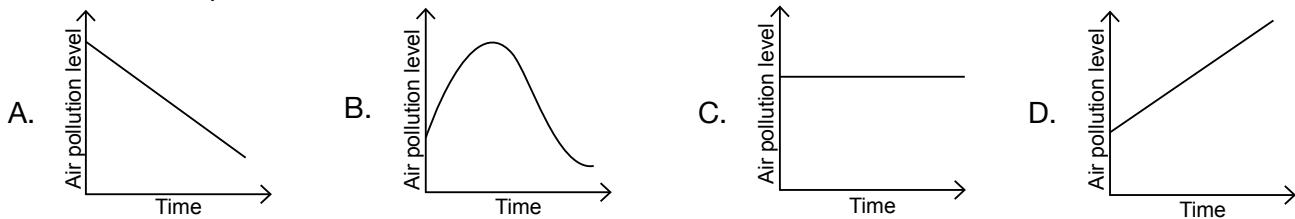
12. Refer to the given Venn diagram and select the option that correctly identifies animals P, Q, R and S.

P	Q	R	S
A. Platypus	Krait	Crocodile	Salamander
B. Porcupine	Stork	Spadefoot toad	Housefly
C. Cassowary	Caiman	Arowana	Viper
D. Ladybird	Rhea	Flamingo	Shrew



SPACE FOR ROUGH WORK

13. The following graphs show the level of air pollution in a particular area. Which graph depicts that vehicular transport has increased in this area over time?

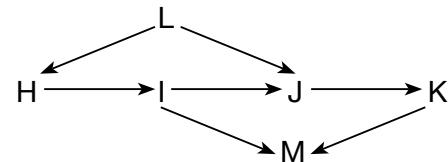


14. Which of the following is NOT hidden in the given word grid?

- A. Structure present in polar bear that protects it from cold and a structure present in *Scoliodon* that enables it to breathe underwater.
- B. Behavioural adaptation that helps Siberian cranes to escape cold winters of their homeland and structural adaptation that helps them to fly.
- C. Phenomenon wherein chameleon blends with its surrounding by changing its skin colour to remain unnoticed by its prey.
- D. Phenomenon wherein a leaf insect externally resembles a plant leaf to remain unnoticed by its predator.

A	H	P	Y	X	A	S	A	P	T	L
B	L	U	B	B	E	R	M	N	P	Q
W	U	M	G	Z	S	C	A	T	E	S
V	N	F	E	A	T	H	E	R	S	P
P	P	Q	H	M	I	M	I	C	R	Y
U	S	W	T	W	V	M	T	N	L	X
Q	M	I	G	R	A	T	I	O	N	B
T	A	N	U	Q	T	U	V	W	X	Q
S	R	G	N	G	I	L	L	S	Y	X
Z	S	S	T	W	O	P	S	T	Z	P

15. Letters H to M in the given food web represent six animals. Which of the following is correct regarding this?



- A. A decrease in population of H will result in an increase in populations of I and L.
- B. An increase in population of K will result in an increase in populations of I and J.
- C. A decrease in population of M will result in an increase in populations I and K.
- D. An increase in population of L will result in a decrease in populations of H and J.

16. Diseases are categorised into four groups on the basis of their causative microbes, each containing one wrong member. Identify the group in which wrong member is encircled correctly.

- | | |
|---|---|
| A. Tuberculosis, <u>Anthrax</u> , Chicken pox | B. Tetanus, <u>Measles</u> , Leprosy |
| C. Dengue, Malaria, <u>Chikungunya</u> | D. Cholera, <u>Plague</u> , Sleeping sickness |

17. Match column I with column II and select the correct option from the given codes.

- Column I**
- (a) Lever
 - (b) Wheel and Axle
 - (c) Inclined plane

- Column II**
- (i) Bicycle pedal
 - (ii) Scissors
 - (iii) Slide
 - (iv) Steering wheel
 - (v) Ramp
 - (vi) See-saw

- A. (a) – (i, v), (b) – (ii, iii), (c) – (iv, vi)
 B. (a) – (ii, vi), (b) – (i, iv), (c) – (iii, v)
 C. (a) – (ii, v), (b) – (iii, vi), (c) – (i, iv)
 D. (a) – (iii, iv), (b) – (i, ii), (c) – (v, vi)

SPACE FOR ROUGH WORK

18. Select the INCORRECT statement.

- A. Overcooking destroys nutrients hence food should not be overcooked.
- B. All vegetables and fruits must be cooked before eating.
- C. Sugaring, salting and oiling food slow down growth of microbes on it.
- D. All of these

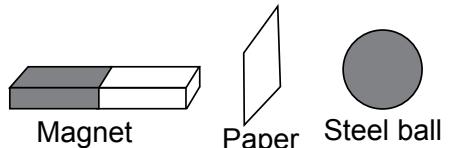
19. Sumeet threw a pebble directly upwards. Which one of the following statements is correct regarding this?

- A. Gravity will have no effect on the pebble until it reaches its highest point.
- B. The pebble will keep going upwards at the same speed until it reaches its highest point.
- C. The pebble will keep going upwards until gravity ceases to act on it.
- D. Gravity will act on the pebble both while it is going up and also while it is falling down.



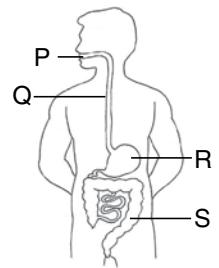
20. Akash set up an experiment as shown here. Which of the following holds true regarding this?

- A. Ball will be attracted by the magnet as the paper is magnetic.
- B. Ball will be attracted by the magnet as the paper is very thin.
- C. Ball will be attracted by paper as it is magnetic.
- D. Ball will not be attracted by magnet as paper is non-magnetic.



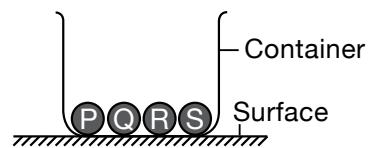
21. The given figure shows human digestive system with some parts labelled as P, Q, R and S. Which of the following labelled parts is correctly matched with its function?

- A. Q – Food is mixed with different digestive juices
- B. P – Digestion starts here
- C. R – Most of the water is absorbed here
- D. S – Digestion of all food components takes place here



22. Four similar sized balls made of clay (P), iron (Q), styrofoam (R) and glass (S), respectively were put in a container as shown in the given diagram.

Then some water was added to the container. Which of the following shows the correct observation after some time?



- A. All four balls (P, Q, R, S) are floating at the same depth in the water.
- B. Ball P is沉没 (sunk) at the bottom, while balls Q, R, and S are floating at the surface.
- C. Ball R is沉没 (sunk) at the bottom, while balls P, Q, and S are floating at the surface.
- D. Both balls P and R are沉没 (sunk) at the bottom, while balls Q and S are floating at the surface.

23. In which of the following cases, a person is doing work in terms of science?

- A. Radhika is pushing against a stationary wall.
- B. Priya is sleeping.
- C. Meena is standing at bus stop waiting for her school bus.
- D. Gayatri is opening the main door of her house on hearing the door bell.

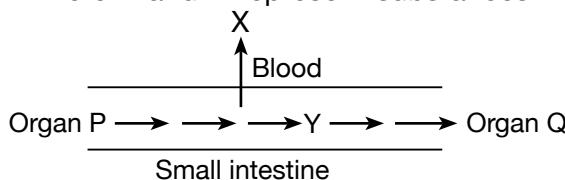
SPACE FOR ROUGH WORK

24. Study the given word-chop table. Which of the following sets of boxes will give the names of a cooking method (X) and a food preservation method (Y) respectively?

X	Y
A. 11 and 7	9 and 12
B. 4, 6 and 7	3, 5 and 7
C. 1, 12 and 7	2, 8 and 7
D. 6 and 10	4 and 8

1 DR	2 CAN	3 PI
4 ROA	5 CKL	6 ST
7 ING	8 NI	9 JEL
10 YI	11 FR	12 YIN

25. Refer to the given diagram where X and Y represent substances while P and Q represent organs.



Which of the following best represents organs P and Q; and substances X and Y?

Organ P	Organ Q	Substance X	Substance Y
A. Stomach	Pancreas	Water	Undigested food
B. Large intestine	Stomach	Digested food	Water
C. Large intestine	Anus	Digested food	Water
D. Stomach	Large intestine	Digested food	Undigested food

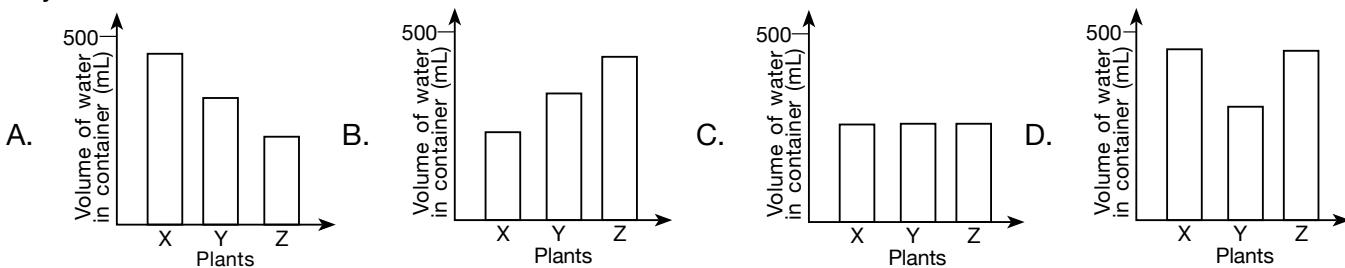
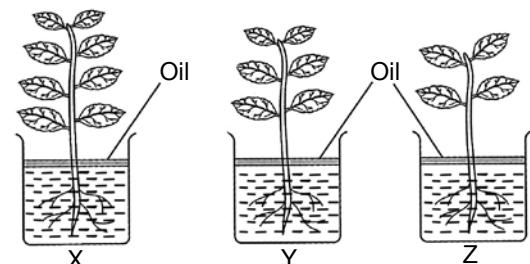
26. Read the given paragraph with few blanks and select the option that correctly fills up any three of these blanks.

Human adults have P types of teeth in their dentition. These are Q, R, S and molars. Q helps in cutting or biting food. There are T Q in each jaw. R teeth are absent in milk teeth set but there are U such teeth in permanent teeth set. S are four in number and helps in V food.

- A. P-8, R-Premolars, V-Grinding
 B. Q-Incisors, T-4, U-8
 C. S-Canines, T-8, U-4
 D. P-8, S-Premolars, V-Tearing

27. Three plants (X, Y and Z) were put into three identical containers filled with 500 mL of water as shown in the figure. Some oil was poured into each container which formed a thin layer above water to prevent water loss through evaporation. The containers were kept outdoor at the same place.

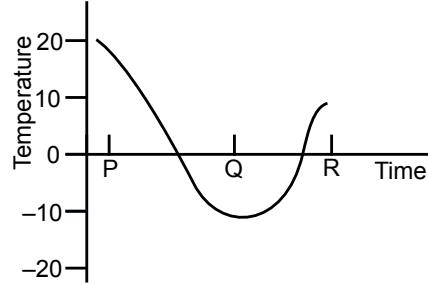
Which of the following graphs correctly depicts the volume of water in the three containers after two days?

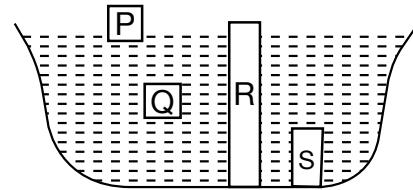


SPACE FOR ROUGH WORK

28. Which of the following activities will cause both air and water pollution?
- Enhanced vehicular transport.
 - Bathing animals and washing clothes in water bodies.
 - Throwing solid waste like polybags and tin cans in water bodies.
 - Burying domestic biodegradable waste underground.
-
29. Starting from first letter, strike out every alternate letter in the given letter groups to get the name of the traditional clothing of Japanese women.
- THPAQNRBSOTKG
 - LKWIOMXOPNZOE
 - MSPAGRLEDET
 - NJBADCFKGEHTI
-
30. 'X' is an animal that lives inside the body of another organism of different species. It has specialised organ to suck blood.
X could be _____.
- Mosquito
 - Hookworm
 - Head louse
 - Leech

ACHIEVERS SECTION

31. Refer to the given graph showing temperature changes at a place over a year (P – R) and select the correct option regarding it.
- People inhabiting the given place mostly wear clothes made up of fibres sourced from some mammals.
 - The given area receives precipitation in the form of rain at time Q whereas precipitation in snow form is witnessed at times P and R.
 - Plants like mango and *peepal* and animals like kangaroo rat and fennec fox are commonly found at this place.
 - Plants inhabiting this place have thin broad leaves which lack stomata whereas animals of this area show bright colouration and possess thin, moist glandular skin.
- 

32. The given diagram shows the positions of water plants P, Q, R and S in a pond. Four pupils Vikas, Shilpi, Beena and Rahul were asked to identify the positions of four plants, viz. water hyacinth, *Hydrilla*, coontail and water lily in the pond.
Which of these pupils has identified the positions of all given water plants correctly?
- 

Pupil	Position of plant in the pond			
	Water hyacinth	<i>Hydrilla</i>	Coontail	Water lily
A. Vikas	P	Q	R	S
B. Shilpi	S	P	Q	R
C. Beena	P	S	Q	R
D. Rahul	Q	P	S	R

SPACE FOR ROUGH WORK

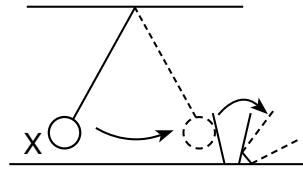
33. Reema tested the properties of four objects, P, Q, R and S and tabulated her results as follows:

Select the option that correctly identifies any two of these objects.

- A. Q – Steel container, R – Styrofoam cup
- B. P – Rubber mat, S – Aluminium plate
- C. P – Windscreen, R – Clay pot
- D. Q – Ceramic tile, S – Rubber band

Property \ Object	P	Q	R	S
Flexible	✓	✗	✗	✗
Water proof	✓	✓	✓	✓
Transparent	✗	✓	✗	✗
Good conductor of heat	✗	✗	✗	✓
Breaks easily	✗	✗	✗	✗

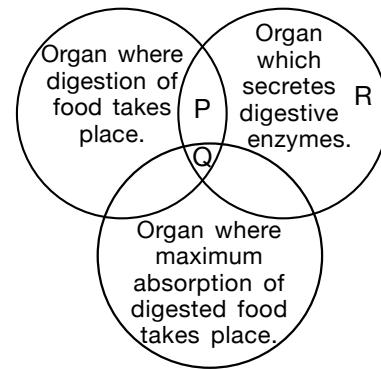
34. A pendulum bob when released from position X, hits a plastic cup on ground and toppled it to its side.



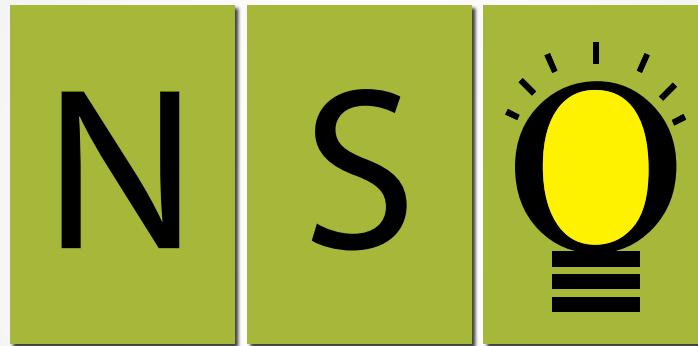
- Which one of the following correctly shows the conversions of energy that took place in this experiment?
- A. Potential energy of pendulum bob → Kinetic energy of pendulum bob → Potential energy of plastic cup → Sound energy
 - B. Potential energy of pendulum bob → Kinetic energy of pendulum bob → Kinetic energy of plastic cup → Sound energy
 - C. Kinetic energy of pendulum bob → Potential energy of plastic cup → Sound energy
 - D. Kinetic energy of pendulum bob → Potential energy of pendulum bob → Kinetic energy of plastic cup → Sound energy

35. Refer to the given Venn diagram and select the INCORRECT option regarding organs P, Q and R.

- A. P could be a muscular organ which churns the food and helps in mixing it with acid.
- B. Q receives digestive juices from R and liver for complete digestion of all food components.
- C. R could be pancreas which secretes different digestive juices for digestion of proteins, fats and carbohydrates.
- D. P could be large intestine which is the longest and widest part of the gut.



SPACE FOR ROUGH WORK



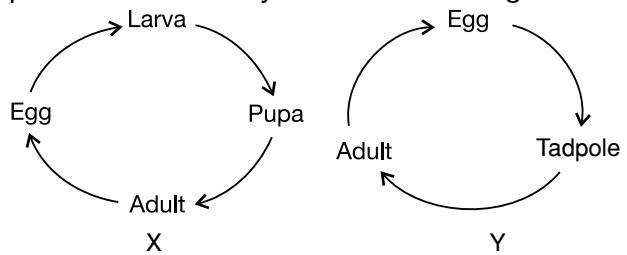
LEVEL - 2

Year 2018-19

SCIENCE

1. Study the two life cycles X and Y, and select the option that correctly identifies the organisms which show these cycles, respectively.

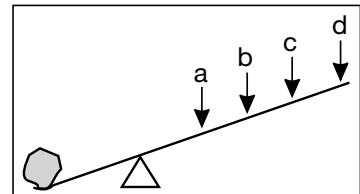
X	Y
A. Mosquito	Butterfly
B. Lizard	Frog
C. Mosquito	Frog
D. Grasshopper	Dragonfly



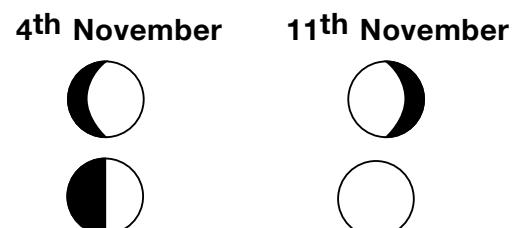
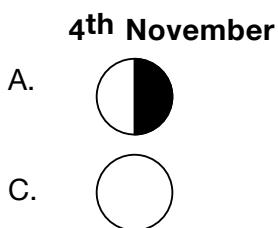
2. Study the given figure carefully. It will be toughest to lift the rock when the force is applied at X, while it will be easiest to do the same when the force is applied at Y. Now, select the correct option regarding X and Y.

X	Y
A. b c	
C. c b	

X	Y
B. d a	
D. a d	



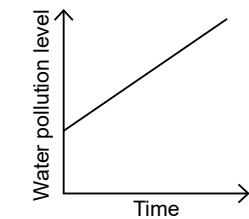
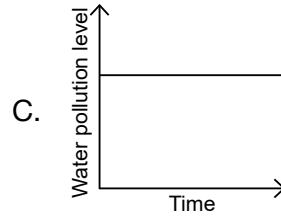
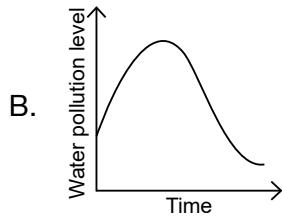
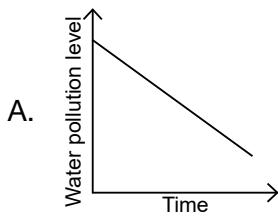
3. Rohini observed New Moon on 27th October. Which phases of Moon will she observe on 4th November and 11th November, respectively?



4. Which of the following statements is INCORRECT?

- A. Equator is an imaginary line that runs from North pole to South pole.
- B. The planets revolve around the Sun in different orbits.
- C. The distance of the planet from the Sun determines its revolution period.
- D. Second planet from the Sun has the highest temperature in our solar system.

5. The following graphs show the level of water pollution in a particular area. Which graph depicts that chemical factories have increased in this area over time?



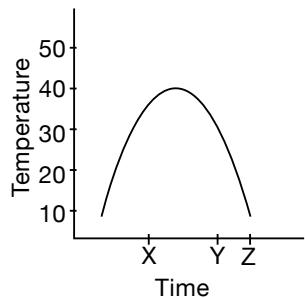
6. Permanent teeth are of four types : incisors, canines, premolars and molars. What is the total number of each of these teeth in the mouth respectively?

- A. 4, 2, 4, 6
- B. 8, 8, 4, 12
- C. 8, 4, 8, 12
- D. 4, 1, 4, 3

SPACE FOR ROUGH WORK

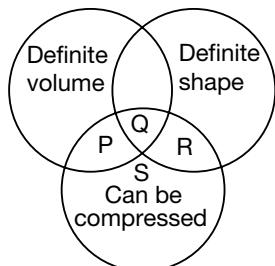
7. Refer to the given graph showing temperature changes at a place over a year. Select the INCORRECT option regarding it.

- A. At time Y, one should wear woollen sweater and gloves.
- B. At time Z, one should wear woollen coat and socks.
- C. At time X, one should wear cotton t-shirt and shorts.
- D. All of these



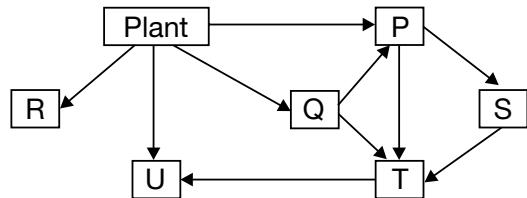
8. Refer to the given Venn diagram. Which letter in it best represents “nitrogen gas”?

- A. P
- B. Q
- C. R
- D. S



9. In the given food web P, Q, R, S, T and U are consumers. Which of these consumers are only plant-eaters?

- A. P and S
- B. Q and T
- C. R and Q
- D. U and P



10. Name of some fabrics can be obtained by using the letters given in the following box.

N I O L C T K O T N O L E

How many of these fabrics are obtained from plants?

- A. 2
- B. 3
- C. 1
- D. None of these

11. A scientist observed a sudden increase in the number of algae in a lake over a few days. The reason behind it could be that _____.

- A. Water cycle in the area got unbalanced
- B. Electronic wastes were being dumped in a nearby area
- C. A factory with heavy smoke discharge has been established nearby
- D. Heavy amount of chemical fertilisers were being used in a nearby field

12. Starting from the first letter, strike out every alternate letter to get the name of a food cooking method and select the correct option.

- A. IPSITCOKMLOISNRGM
- B. PCOARNCNEILNAGI
- C. CSETFEGAHMJIKNLGM
- D. RDCRFYHIKNLGP

SPACE FOR ROUGH WORK

13. Select the option that on unscrambling gives the name of a planet that rotates from east to west.

- A. TUIPJRE B. AURTNS C. UERYMCR D. RAUUNS

14. The dress shown in the picture is known as _____ and is traditional dress of _____.

- A. Kimono, Australia
B. Hanbok, Japan
C. Kalli Mundu, India
D. None of these



15. Study the given word grid carefully. How many natural fibres are hidden in the grid?

- A. 3
B. 4
C. 5
D. 2

A	W	C	J	I	K
E	O	Q	U	O	P
C	O	T	T	O	N
D	L	H	E	M	P
G	J	M	N	B	L
H	F	L	A	X	F

16. Which of the following groups contains only egg laying animals?

- A. Parrot, Crow, Bear B. Crocodile, Frog, Wolf
C. Frog, Honey bee, Platypus D. Hen, Cockroach, Seal

17. Group 'P' contains microbes that are both harmful and useful to the mankind. They are used to make cheese and curd. They also cause diseases like tuberculosis and pneumonia. Identify the microbe that belongs to group 'P'.

- A. Bacteria B. Virus C. Fungus D. Protozoa

18. Which of the following statements is/are INCORRECT?

1. *Phiran* is the traditional dress of Kashmir.
 2. Rose leaves are kept in folds of woollen clothes to protect them from damage by silver fish.
 3. Light coloured clothes absorb more heat than dark coloured clothes.
- A. 2 only B. 2 and 3 only
C. 1 and 2 only D. 1, 2 and 3

19. The plants X and Y are similar to each other as they both _____.

- A. Grow in soil that lack both air and water
B. Have tentacles on leaves to trap insects
C. Cannot photosynthesise
D. Need to overcome deficiency of nitrogen



SPACE FOR ROUGH WORK

20. Study the given relationship and select the option which shows the similar relationship.

Coffee : Seeds

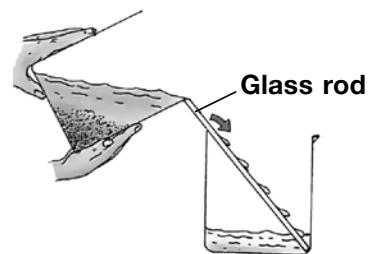
- | | |
|--------------------|---------------------|
| A. Carrot : Flower | B. Cabbage : Leaves |
| C. Broccoli : Root | D. Radish : Stem |

21. Which of the following statements is correct?

- A. Energy is the capacity to do work.
- B. When force is applied, it changes the position of the object and scientifically no work is done.
- C. Energy cannot change from one form to another.
- D. None of these

22. Select the correct statement about the separation technique shown in the picture.

- A. Salt from water can be removed using this method.
- B. This method is used to separate soluble substances from a liquid.
- C. Stones from sand can be separated using this method.
- D. It first requires sedimentation.



23. Read the following statements.

- (a) _____ (i) _____ is an inner planet which is the brightest planet.
- (b) _____ (ii) _____ is an outer planet which is also the second largest planet.

Select the option which correctly fills the blanks (i) and (ii).

- | | | | |
|------------|---------|----------|---------|
| (i) | (ii) | (i) | (ii) |
| A. Mercury | Earth | B. Venus | Saturn |
| C. Jupiter | Mercury | D. Earth | Jupiter |

24. Select the option that correctly identifies 'I' in the given rhyme.

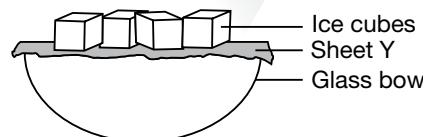
- A. Clove
- B. Turmeric
- C. Fennel
- D. Pepper

'I' look like cumin though green am I,
to make your stomach healthy I always try,
Eat me always after your meal, I refresh
your mouth, you surely feel.

25. Anu set-up an experiment as shown in the picture. After 15 minutes, no water can be seen in the bowl. Which of the following materials sheet Y could be made of?



- A. Linen
- B. Plastic
- C. Aluminium
- D. Either B or C



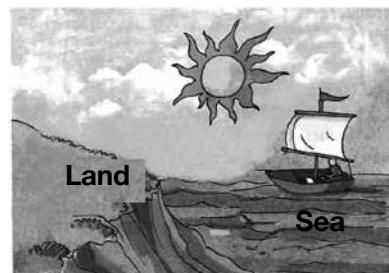
SPACE FOR ROUGH WORK

26. Mohit wants to separate a mixture of sugar, water and pebbles. Which of these separation methods should he use to separate all the three components?

- A. Filtration, Evaporation B. Decantation, Sublimation
C. Filtration, Decantation D. Evaporation, Distillation

27. Refer to the given figure and select the INCORRECT option regarding it.

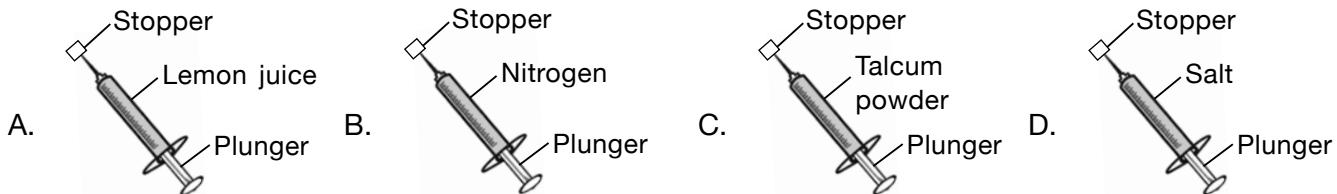
- A. Winds blow from areas of low pressure to areas of high pressure.
B. Hot air blows from the sea to the land.
C. Sea breeze blows from sea to the land.
D. Both A and B



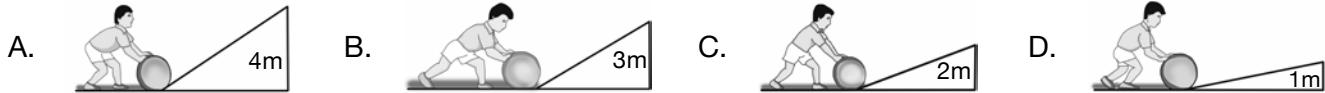
28. In which of the following options, wheel and axle is NOT used?

- A. Door knob B. Tweezers C. Skateboard D. Bus

29. Seema took four syringes with stoppers inserted at their nozzles. Each syringe contains a different substance. All syringes are completely filled with their contents such that their plungers are pulled out to the maximum. Which of the following plungers can be pushed in easily?



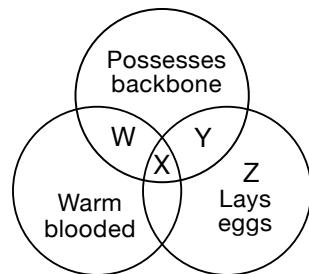
30. Four boys rolled rocks of the same weight and size up the ramps of different heights. Who amongst them required the least effort?



ACHIEVERS SECTION

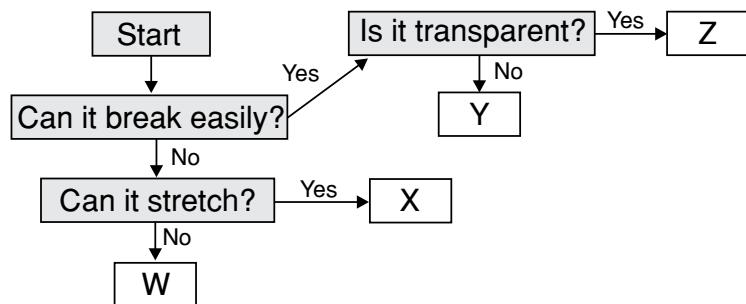
31. Refer to the given Venn diagram and select the option that correctly identifies animals W, X, Y and Z.

W	X	Y	Z
A. Platypus	Cobra	Alligator	Salamander
B. Koala	Crane	Sea turtle	Mosquito
C. Arctic tern	Chameleon	Frog	Viper
D. Ladybird beetle	Ostrich	Parrot	Red panda



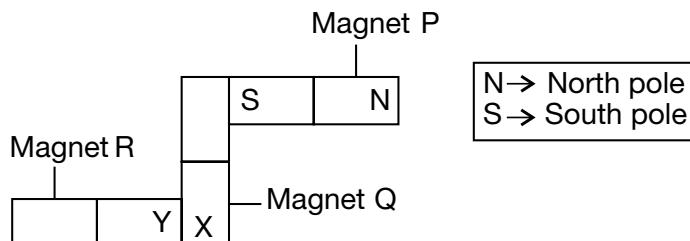
SPACE FOR ROUGH WORK

32. Study the given flow chart and identify the objects W, X, Y and Z.



W	X	Y	Z
A. Clay tile	Steel sheet	Aluminium foil	Chalk
B. Rubber band	Glass	Iron rod	Clay tile
C. Sponge	Steel sheet	Clay tile	Glass
D. Iron rod	Rubber band	Chalk	Glass

33. The given diagram shows magnet P, magnet Q and magnet R.



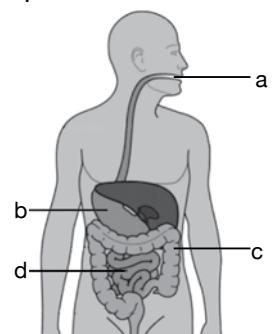
Based on the diagram, identify the poles at X and Y.

X	Y
A. North pole	North pole
B. North pole	South pole
C. South pole	North pole
D. South pole	South pole

34. Refer to the given figure showing digestive system and answer the following questions.

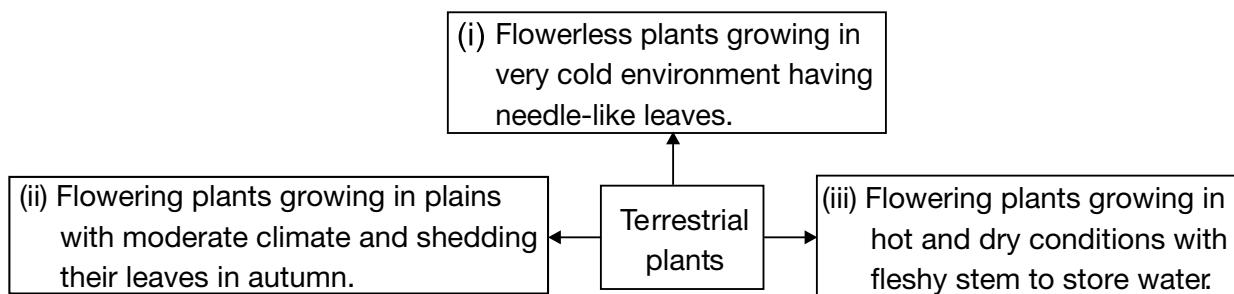
- Where does the digestion of food gets completed?
- Where does the absorption of water from undigested food take place?

- | (i) | (ii) |
|------|------|
| A. a | b |
| B. b | c |
| C. c | d |
| D. d | c |



SPACE FOR ROUGH WORK

35. Plants that grow on land are called terrestrial plants. Different regions of the Earth have different environmental conditions. Study the given classification chart and identify plants (i-iii) adapted to different conditions.



- | (i) | (ii) | (iii) |
|--------------|-------------|------------------|
| A. Deodar | Peepal | <i>Opuntia</i> |
| B. Neem | Sal | <i>Aloe vera</i> |
| C. Sheesham | Palm | Cactus |
| D. Date palm | Rice plant | Pepper plant |

SPACE FOR ROUGH WORK

ANSWER KEYS

NSO 2014

- | | | | | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1. (A) | 2. (B) | 3. (B) | 4. (C) | 5. (C) | 6. (B) | 7. (A) | 8. (B) | 9. (B) | 10. (D) |
| 11. (B) | 12. (C) | 13. (D) | 14. (C) | 15. (A) | 16. (B) | 17. (D) | 18. (C) | 19. (C) | 20. (B) |
| 21. (B) | 22. (D) | 23. (C) | 24. (D) | 25. (A) | 26. (B) | 27. (C) | 28. (A) | 29. (C) | 30. (D) |
| 31. (B) | 32. (A) | 33. (B) | 34. (B) | 35. (B) | | | | | |

2015 NSO-Level 2 was an online exam. Hence, paper cannot be included in the booklet.

NSO 2016

- | | | | | | | |
|--------|---------|---------|---------|---------|---------|---------|
| 1. (A) | 6. (A) | 11. (D) | 16. (C) | 21. (A) | 26. (A) | 31. (D) |
| 2. (C) | 7. (A) | 12. (C) | 17. (A) | 22. (C) | 27. (A) | 32. (B) |
| 3. (A) | 8. (C) | 13. (C) | 18. (B) | 23. (B) | 28. (C) | 33. (D) |
| 4. (B) | 9. (C) | 14. (C) | 19. (A) | 24. (D) | 29. (A) | 34. (B) |
| 5. (D) | 10. (D) | 15. (C) | 20. (D) | 25. (D) | 30. (B) | 35. (B) |

NSO 2017

- | | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|
| 1. (D) | 2. (C) | 3. (A) | 4. (C) | 5. (B) | 6. (D) | 7. (C) |
| 8. (A) | 9. (D) | 10. (C) | 11. (D) | 12. (D) | 13. (B) | 14. (B) |
| 15. (B) | 16. (B) | 17. (C) | 18. (B) | 19. (B) | 20. (B) | 21. (B) |
| 22. (C) | 23. (A) | 24. (B) | 25. (C) | 26. (D) | 27. (C) | 28. (B) |
| 29. (D) | 30. (D) | 31. (A) | 32. (C) | 33. (A) | 34. (B) | 35. (B) |

NSO 2018

- | | | | | | | |
|--------|---------|---------|---------|---------|---------|---------|
| 1. (B) | 6. (C) | 11. (D) | 16. (B) | 21. (B) | 26. (B) | 31. (A) |
| 2. (D) | 7. (C) | 12. (B) | 17. (B) | 22. (C) | 27. (B) | 32. (C) |
| 3. (C) | 8. (B) | 13. (D) | 18. (B) | 23. (D) | 28. (A) | 33. (B) |
| 4. (C) | 9. (A) | 14. (C) | 19. (D) | 24. (B) | 29. (B) | 34. (B) |
| 5. (C) | 10. (C) | 15. (C) | 20. (B) | 25. (D) | 30. (B) | 35. (D) |

NSO 2019

- | | | | | | | |
|--------|---------|---------|---------|---------|---------|---------|
| 1. (C) | 6. (C) | 11. (D) | 16. (C) | 21. (A) | 26. (A) | 31. (B) |
| 2. (D) | 7. (A) | 12. (C) | 17. (A) | 22. (D) | 27. (D) | 32. (D) |
| 3. (D) | 8. (D) | 13. (D) | 18. (B) | 23. (B) | 28. (B) | 33. (C) |
| 4. (A) | 9. (C) | 14. (D) | 19. (D) | 24. (C) | 29. (B) | 34. (D) |
| 5. (D) | 10. (A) | 15. (C) | 20. (B) | 25. (D) | 30. (D) | 35. (A) |