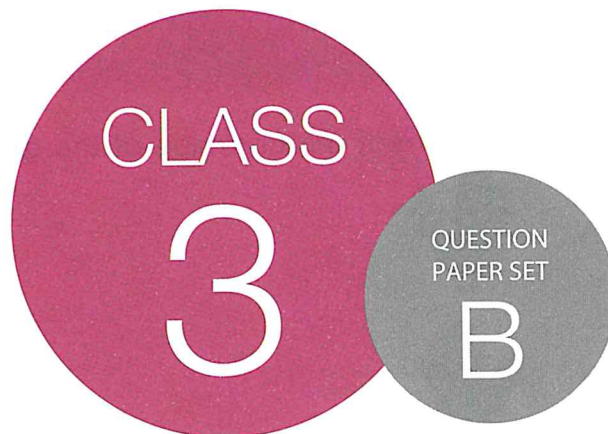




**SOF NATIONAL SCIENCE
OLYMPIAD 2019-20**



DO NOT OPEN THIS BOOKLET UNTIL ASKED TO DO SO

Total Questions: 35 | Time: 1 hr.

Name:.....

Section:..... SOF Olympiad Roll No.:..... Contact No.:.....

Guidelines for the Candidate

1. Please check your Name, Class and Section on the OMR sheet provided to you. In case, OMR sheet with your name is missing, please fill in information about yourself in the blank OMR sheet provided before start of exam.
2. Please fill in your **Mobile Number** clearly on the OMR Sheet and do not forget to sign it. We will share your marks / result and other information related to SOF exams on your mobile number.
3. The Question Paper comprises three sections:
Logical Reasoning (5 Questions), **Science** (25 Questions) and **Achievers Section** (5 Questions)
Each question in Achievers Section carries 2 marks, whereas all other questions carry one mark each.
4. All questions are compulsory. There is no negative marking. Use of calculator is not permitted.
5. There is only ONE correct answer. Choose only ONE option for an answer.
6. To mark your choice of answers by darkening the circles on the OMR Sheet, use **HB Pencil** or **Blue / Black ball point pen** only. E.g.
Q. 16: Raj goes to school on a bicycle. Which of these safety rules he should follow?
A. He should give signals before taking turns. B. He should keep to the right of the road.
C. He should cross the road by using zebra crossing. D. All of these
As the correct answer is option A, you must darken the circle corresponding to option A on the OMR Sheet.
7. Rough work should be done in the blank space provided in the booklet.
8. Return the OMR Sheet to the invigilator at the end of the exam.
9. Please fill in your personal details in the space provided on this page before attempting the paper.



16. ● B C D





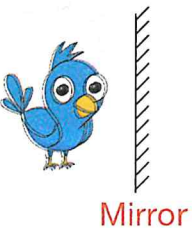
SCIENCE OLYMPIAD FOUNDATION
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LOGICAL REASONING



1. Find the correct mirror image of the given figure.



A.  B. 


C.  D. 


Mirror

2. Which of the following figures is exactly embedded in the given figure as one of its parts?

A.  B. 

C.  D. 

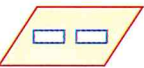
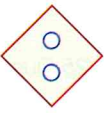




3. Anamika had to reach Mall via Market. In how many different ways can she reach the Mall?

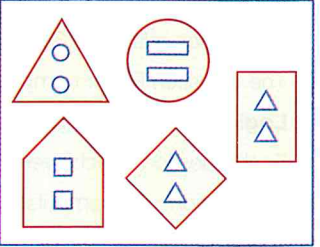
A. 6
B. 5
C. 8
D. 7


Anamika Market Mall

4. Which of the following figures does not belong to Group (X)?

A.  B. 

C.  D. 


Group (X)

5. Find the combination of numbers so that letters are arranged accordingly to form a meaningful English word.

U D R O N
1 2 3 4 5

- A. 3, 4, 1, 5, 2 B. 3, 1, 2, 5, 4 C. 2, 4, 3, 1, 5 D. 2, 3, 1, 5, 4

SPACE FOR ROUGH WORK

SCIENCE

6. Different shapes of the Moon are shown in the given options. Identify the shape of the Moon when it is between the Earth and the Sun.



7. Which of the following first aid should you give to a person if he is bleeding?

- A. Clean the wound with an antiseptic lotion B. Apply an antiseptic cream
C. Tie a bandage around the wound D. All of these

8. Refer to the given conversation between Pihu and her mother and answer the question that follows.

Pihu's mother : Wake up Pihu, or else you will get late for the school.
Pihu : Ok Mom, just five more minutes.

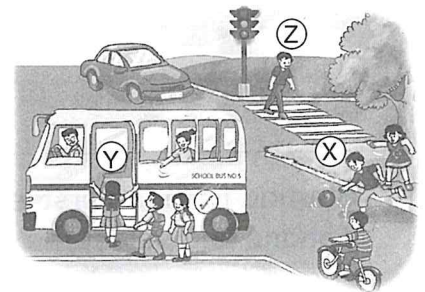
Pihu is most likely present in which of the following rooms of her house?

- A. Study room B. Kitchen C. Living room D. Bedroom

9. Refer to the given figure.

Which of the following kid(s) is/are NOT obeying traffic/safety rules?

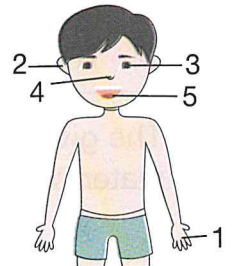
- A. X and Y only
B. Z only
C. Y and Z only
D. X only



10. The given picture shows different parts of a human body marked as 1, 2, 3, 4 and 5. Select the body part that :

Identifies hot and cold objects - X
Senses a melodious tune - Y

- A. X-4, Y-1 B. X-1, Y-2
C. X-2, Y-3 D. X-2, Y-5



11. The tools shown in the given figure are used by a _____.







- A. Plumber B. Barber C. Farmer D. Carpenter

SPACE FOR ROUGH WORK

12. Which of the following is matched correctly?

- A. Excretory system - Kidney
 B. Digestive system - Blood
 C. Nervous system - Liver
 D. Circulatory system - Brain

13. Select the INCORRECT match of the safety equipment and the activity in which it should be used.

- A.  - Swimming
 B.  - Cycling
 C.  - Boating
 D.  - Ballet dancing

14. Refer to the dialogue given in the box.

Which of the following best fits the given description?

“I cannot be compressed and I have a fixed shape.”

- A. Ice cube
 B. Oil
 C. Water vapour
 D. Nitrogen

15. Bobby has become obese. Which of the following food items should he avoid the most in his diet?

- A.  B.  C.  D. 

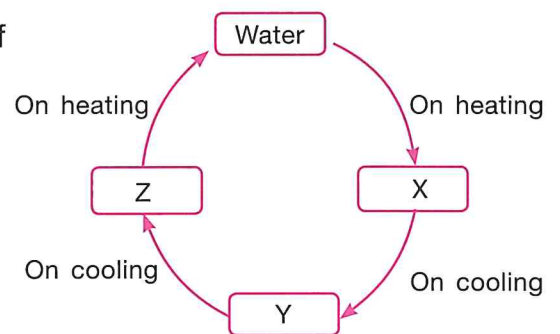
16. Starting from the first letter, strike out every alternate letter in the given options and select the one that gives name of young one of the animal shown here.

- A. MJZODENYR
 B. TIJNLFOAKNDTB
 C. TPAUBPDPQYT
 D. ACZHXICCFKP



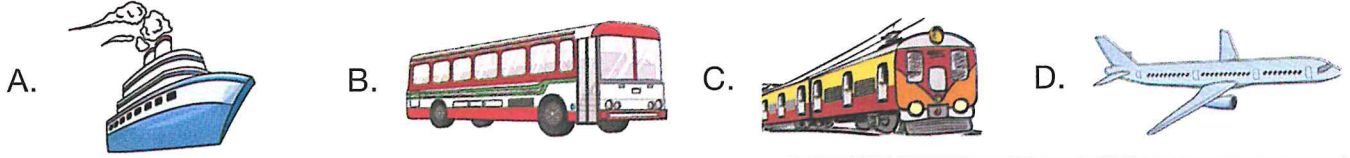
17. The given figure shows a cycle of changes in state of water. What is X, Y and Z?

- | X | Y | Z |
|----------|-------|-------|
| A. Water | Ice | Steam |
| B. Ice | Steam | Water |
| C. Steam | Ice | Water |
| D. Steam | Water | Ice |



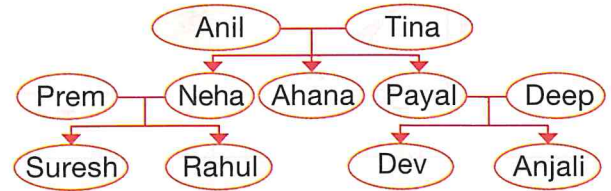
SPACE FOR ROUGH WORK

18. Madhur wants to travel from England to India. Which of the following means of travel he should use to reach India as soon as possible?



19. Study the given family tree and select the INCORRECT option regarding it.

- A. Suresh and Anjali are cousins.
 B. Prem is Ahana's brother-in-law.
 C. Dev is Payal's son-in-law.
 D. Rahul is Tina's grandson.



20. Which of the following are NOT healthy eating habits?

- A. Talking to your friend over the phone while having dinner.
 B. Eating fries and chips every day.
 C. Washing hands before and after every meal.
 D. Both A and B

21. Match column I (item) with column II (measuring unit) and select the correct option from the given codes.

Column I

- (a) Petrol
 (b) Rice
 (c) Fabric
 (d) Temperature

Column II

1. Celsius
 2. Metres
 3. Litres
 4. Kilograms
 5. Seconds

- A. a-4, b-3, c-1, d-5 B. a-2, b-4, c-1, d-3 C. a-3, b-4, c-2, d-1 D. a-5, b-3, c-4, d-2

22. Which of the following plants is a herb?

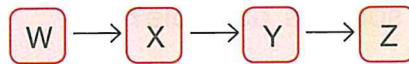
- A. Coriander B. Rose C. *Hibiscus* D. Banyan

23. Select the odd one out.

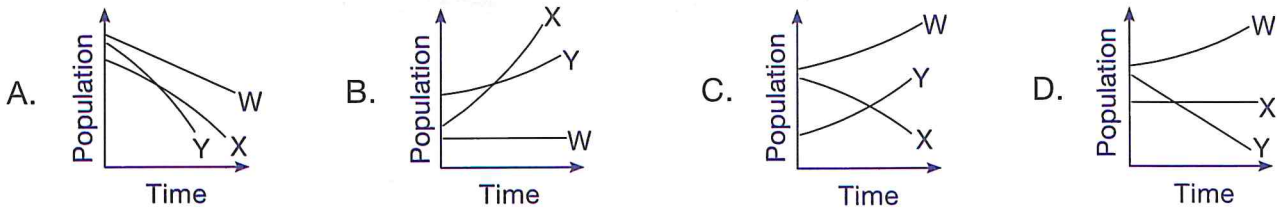


SPACE FOR ROUGH WORK

24. Refer to the given food chain.

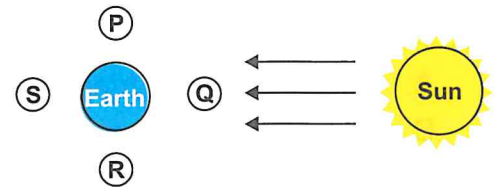


If population of Z gets completely wiped out from the area, then select the graph which correctly depicts the changes in the populations of X and Y over time.



25. The Sun, the Earth and the Moon are part of our Solar System. At which of the four positions (P, Q, R and S) shown in the figure, would the Moon be during an eclipse of the Sun?

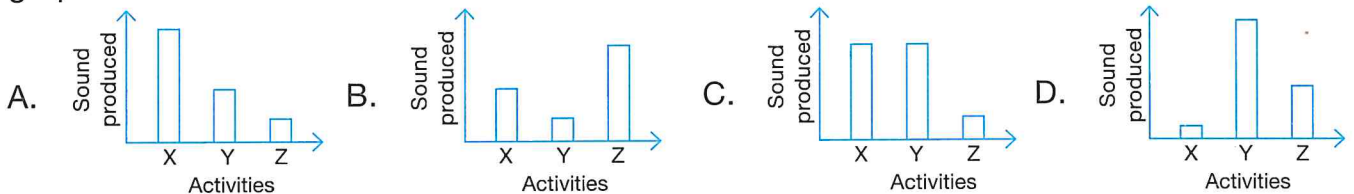
- A. P
- B. Q
- C. R
- D. S



26. Hina plotted a graph to show the amount of sound produced during the given activities X, Y and Z.

Which of the following is the most probable graph she would have obtained?

X- Hina whispering in her friend's ear
 Y- A train passing near by
 Z- Her sister humming her favourite tune



27. Unscramble the letters given in the box to get the name of a bird and select the correct option regarding this bird.

- A. It has a strong, sharp and hooked beak for tearing flesh.
- B. It has webbed feet for swimming.
- C. It has a chisel-shaped beak to make hole in the tree trunk.
- D. It has three toes in front and one at the back to hold onto a branch.

DEWPCOKREO

28. X is a mineral that is used as a fuel, while Y is a mineral that is used in pencil. Identify X and Y.

- A. X-Marble, Y-Graphite
- B. X-Coal, Y-Graphite
- C. X-Sandstone, Y-Granite
- D. X-Coal, Y-Granite

SPACE FOR ROUGH WORK

29. Read the statements given by four children and select the correct one.

A.  Nylon is obtained from flax plant.
Bindu

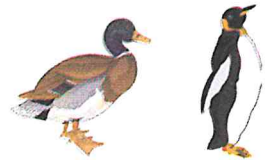
B.  Raincoat is made from a fibre obtained from jute plant.
Sahil

C.  Wool fibre is obtained from a mammal.
Mala

D.  Silk and rayon are obtained from an insect.
Rudra

30. Refer to the given pictures of birds. Which of the following statements is correct about them?

- They both have webbed feet to swim in water.
- They both can fly.
- They both make their nest in hollow trees or on walls.
- None of these



ACHIEVERS SECTION

Direction (Q. No. 31 and 32) : Refer to the given word grid and answer the questions that follow.

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

- Animal that chews cud.
- Bird that makes its nest by using pebbles.
- Animal that sucks nectar from flowers.
- Animal that gnaws its food




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

32. How many plants having tap roots are hidden in this word grid?




- 4
- 6
- 5
- 3

33. Which of the following map/road symbols should one look for regarding the given situations?

- One of your friends is very hungry and wants to go to some place to eat.
- Your father needs to catch a flight as soon as possible.
- Your mother needs to park the car in the market.

A. 1 - , 2 - , 3 - 

B. 1 - , 2 - , 3 - 

C. 1 - , 2 - , 3 - 

D. 1 - , 2 - , 3 - 

SPACE FOR ROUGH WORK

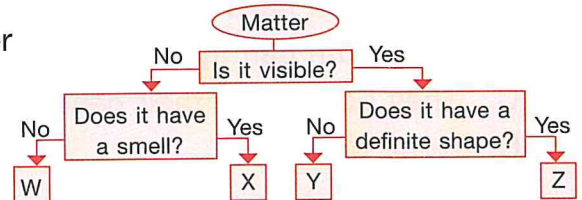
34. Mandira classified some food items into three groups, as shown in the table.
Which of the food items has she placed INCORRECTLY?

- A. Pulses, Ghee and Papaya
- B. Spinach, Fish and Sugar
- C. Chicken, Sugar and Chapati
- D. Pulses, Ghee and Apple

Body-building	Energy-giving	Protective
Spinach	Chapati	Papaya
Pulses	Ghee	Sugar
Chicken	Fish	Apple

35. The given flow chart shows the characteristics of few substances.

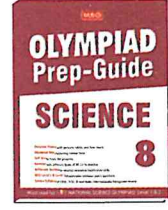
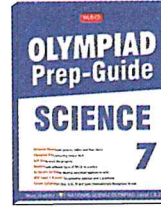
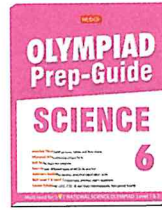
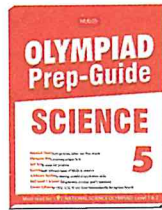
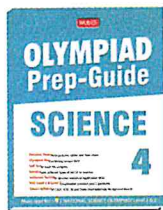
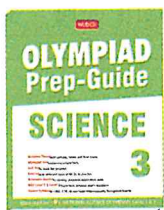
- | | W | X | Y | Z |
|----|---------|-----------------|----------------|-------------|
| A. | Air | Talc | Perfume | Newspaper |
| B. | Oxygen | Perfume vapours | Milk | Metal spoon |
| C. | Oil | Carbon monoxide | Carbon dioxide | Air |
| D. | Vinegar | Nail polish | Copper coin | Butter |



SPACE FOR ROUGH WORK

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