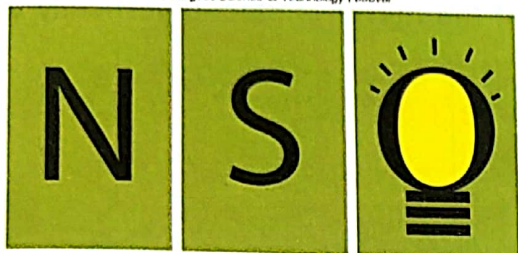




Techfest™
IIT Bombay
Asia's Largest Science & Technology Festival



**SOF NATIONAL SCIENCE
OLYMPIAD 2024-25**

DO NOT OPEN THIS BOOKLET UNTIL ASKED TO DO SO

CLASS **4**

SET-B

Total Questions : 35 | Time : 1 hr.

Guidelines for the Candidate

1. You will get additional ten minutes to fill up information about yourself on the OMR Sheet, before the start of the exam.
2. Write your **Name, School Code, Class, Section, Roll No.** and **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: Hard outer covering of the tree trunk is called
A. Bark B. Spine C. Branch D. Bud.
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 before attempting the paper.
10. **Participate in SOF-Techfest IIT Bombay Innovation Challenge. Open for class 8, 9 & 10. For details, please visit : www.sofworld.org**

16. ● (A) (B) (C) (D)

Name:.....

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



**THE WORLD'S
BIGGEST
OLYMPIADS**

Over
26 Years
of Trust

96,499+
Schools

72
Countries

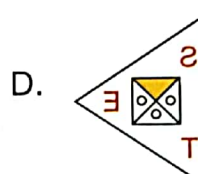
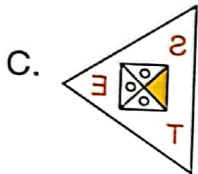
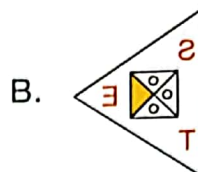
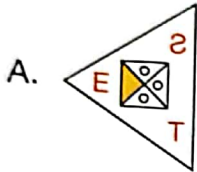
7.2+ Crores
Assessments

8
Olympiads

LOGICAL REASONING

- 1 Vinit correctly remembers that his exam results will be declared after 19th April but before 23rd April. His mother correctly remembers that his exam results will be declared after 21st April but before 24th April. On which date Vinit's exam results will be declared?
- A. 23rd April B. 21st April C. 22nd April D. 20th April

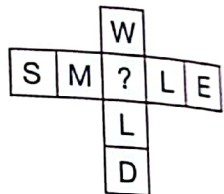
- 2 Select the correct mirror image of the given figure, if the mirror is placed vertically to the right.



- 3 Which letter should replace the question mark (?) to form two meaningful English words?

A. K
C. G

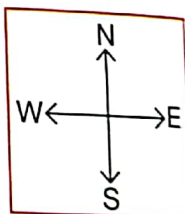
B. E
D. I



- 4 Ankit is facing towards North. He takes a $\frac{3}{8}$ turn anti-clockwise, followed by a $\frac{5}{8}$ turn clockwise. In which direction is he facing now?

A. East
C. North

B. West
D. South



- 5 Read the given information carefully and answer the following question.
In a queue of five persons,

- P is standing exactly in the middle.
- S is standing just before P.
- R is standing just after Q.
- S is standing between T and P.

Who among the following is standing at the front of the queue?

A. S

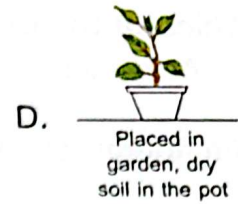
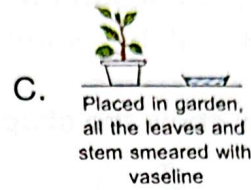
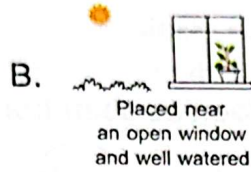
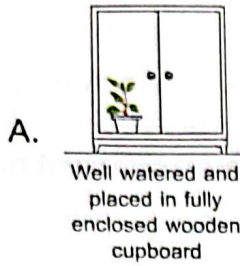
B. T

C. R

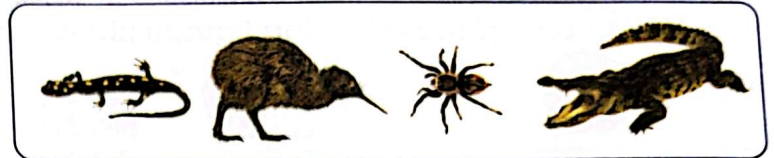
D. Q

SPACE FOR ROUGH WORK

- 6 In which of these conditions, the potted plant would be able to carry out the process of making food?



- 7 Refer to the group of animals given in the box and select the correct option regarding them.



- A. They all are vertebrates.
B. They all breathe through skin and gills.
C. They all have their bodies covered with scales.
D. They all lay eggs.

- 8 Select the option that correctly identifies the total number of different types of teeth in an adult human.

	Incisor	Canine	Premolar	Molar
A.	6	4	2	10
B.	4	2	8	12
C.	8	4	10	8
D.	8	4	8	12

- 9 Which one of the following clothing items is made of leather?



- 10 Unscramble the given letters to obtain the name of a method that can be used for separating heavier and lighter components of a mixture with the help of blowing air.

A. IGSNVIE

B. APIGKHINCDN

C. HSNTREHGI

D. NIONWGWIN

SPACE FOR ROUGH WORK

- 11 Study the given relationship and select the option that correctly satisfies the same relationship.

Screwdriver : Screw

- A. Door knob : Bottle cap
B. Steering wheel : Scissors
C. Bottle opener : Axe
D. Fork : Ramp

- 12 Which of the following is caused due to air pollution?

- A. Acid rain
B. Global warming
C. Gale
D. Both A and B

- 13 The figures given below show the shapes of Moon as seen from Earth on different nights.



September 4

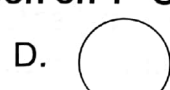
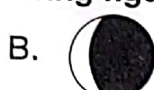


September 7



September 11

Which one of the following figures shows the correct shape of Moon on 1st September?

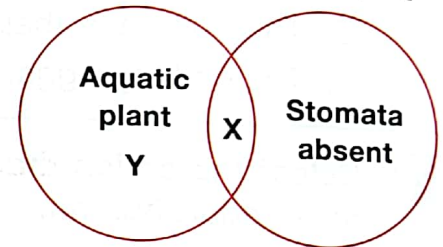


- 14 Study the given Venn diagram and select the option that correctly identifies X and Y.

X

Y

- A. Lotus
B. Hydrilla
C. Tape grass
D. Water lettuce
- Duckweed
Water lily
Hydrilla
Water hyacinth



- 15 Which of the following is an arboreal animal that gives birth to young ones?

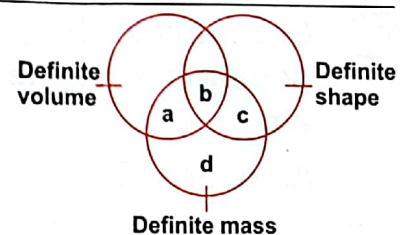
- A. B. C. D. None of these

- 16 Riya was asked to group one bacterial disease and one protozoan disease together. But she made few mistakes. Select the correctly formed group.

- A. Dysentery, Ringworm
B. Pneumonia, Dengue
C. Tuberculosis, Malaria
D. Polio, Typhoid

- 17 Which letter in the given Venn diagram best represents honey?

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



SPACE FOR ROUGH WORK

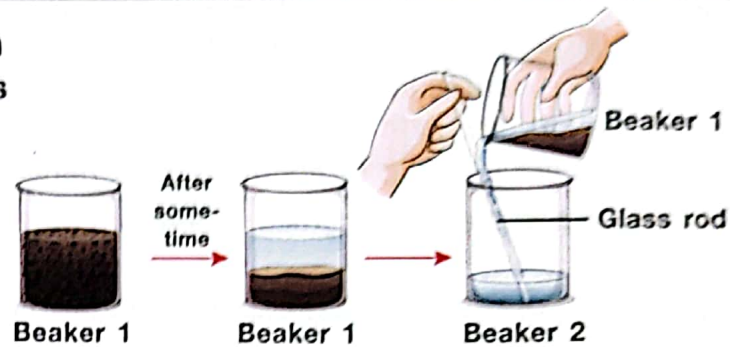
- 18 Which of the following options correctly categorises the materials given in the box?

1. Rubber 2. Aluminium 3. Iron 4. Wood 5. Plastic 6. Copper 7. Silver 8. Glass

Electrical conductor	Electrical insulator
A. 1, 3, 5, 6	2, 4, 7, 8
B. 2, 3, 6, 7, 8	1, 4, 5
C. 1, 4, 5, 8	2, 3, 6, 7
D. 2, 3, 6, 7	1, 4, 5, 8

- 19 Identify the process shown in the given picture. Which of the following mixtures can be separated by this process?

- A. Salt and water
B. Sugar syrup and water
C. Sand and water
D. Honey and water



- 20 Read the given statements about bird X and identify it.

- It is a flightless bird.
- It makes its nest using stones and pebbles.
- It has flippers which help in swimming.

Now, select the option that correctly identifies the type of feet of bird X.

- A. Wading feet B. Climbing feet C. Webbed feet D. Perching feet

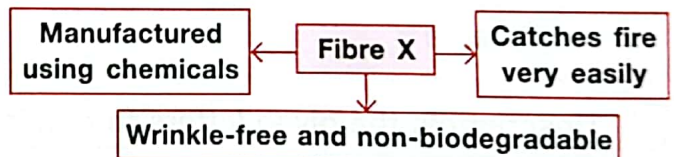
- 21 Refer to the given list of food items and select the option that correctly identifies the food items that are traditionally cooked by frying.

1. Cake	2. Dhokla	3. Poori	4. Idli	5. Jam
6. Samosa	7. Pizza	8. Biscuit	9. Pakora	10. Bread

- A. 1, 5 and 7 only B. 3, 6 and 9 only C. 2, 4 and 10 only D. 5, 7 and 8 only

- 22 Refer to the given diagram. Fibre X could be _____.

- A. Fur
B. Cotton
C. Polyester
D. Linen



SPACE FOR ROUGH WORK

23 X is a special means of transport used in hilly areas that does not run on land.

What could be X?

- A. Submarine B. Ropeway C. Sledge D. Palanquin

24 Select the correct match of an organ name and its total number in an adult human body.

- A. Bones – 300 B. Muscles – 100 C. Liver – 2 D. Kidney – 2

25 Select the correct statement.

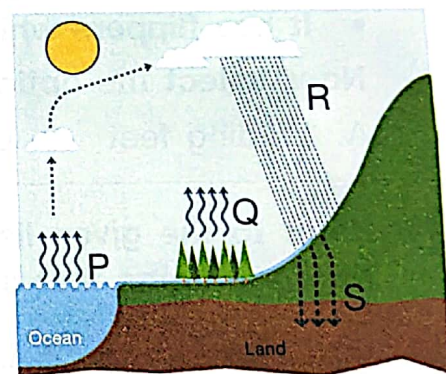
- A. Comets are small celestial snowballs of frozen gases, rocks and dust.
 B. The natural satellite of Earth does not have its own light, it reflects the light it gets from the Earth.
 C. There is a gap of about 28 days between New Moon and Full Moon.
 D. When the Moon comes in between the Sun and the Earth, we observe a Lunar Eclipse.

26 Which of the following paper cuttings will form the darkest shadow?

- A.  Butter paper B.  Sand paper C.  Cellophane paper D.  Tracing paper

27 Refer to the given diagram of water cycle and select the option that correctly identifies the processes/steps that involve heat gain.

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



28 Look at the item shown in the given picture and select the option that correctly identifies one of the properties of the material it is made of.

- A. Heatproof B. Floats on water
 C. Durable D. Magnetic



29 Unscramble the given letters to obtain the name of a tool.

R E M E T E T R H O M

Now, select the option that can be measured using this tool.

- A. Weight B. Length C. Volume D. Temperature

SPACE FOR ROUGH WORK

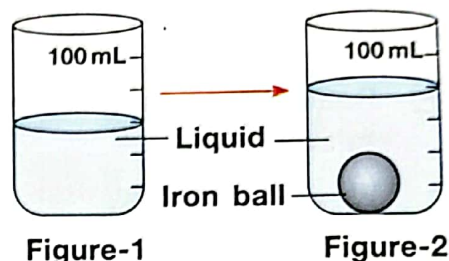
- 30 Select the option that correctly fills the given blanks (i) and (ii).
- P. Clothing items made from animal fibres like ___(i)___ are worn during winter season.
- Q. You should never touch chemicals like ___(ii)___ kept at your home.
- A. (i)-Linen, (ii)-Ghee
B. (i)-Rayon, (ii)-Acid
C. (i)-Wool, (ii)-Phenyl
D. (i)-Silk, (ii)-Coconut oil

ACHIEVERS SECTION

- 31 A beaker was taken with certain volume of liquid as shown in the figure-1. Then, an iron ball was immersed into the same beaker as shown in figure-2.

Which of the following interpretations is **INCORRECT** regarding the given experiment?

- A. The reading of the level of liquid in the beaker in figure-2 gives the total volume of liquid and the iron ball.
- B. The difference in the levels of liquids in figure-1 and figure-2 gives the volume of immersed iron ball in figure-2.
- C. Volume of liquid remains same in both the figures 1 and 2.
- D. The volume of liquid in the beaker of figure-2 will increase after immersing the iron ball.



- 32 Which of the following statements are correct regarding the given two planets?

(i) They have one and two moons respectively revolving around them.

(ii) They do not have rings around them.

Earth, Mars

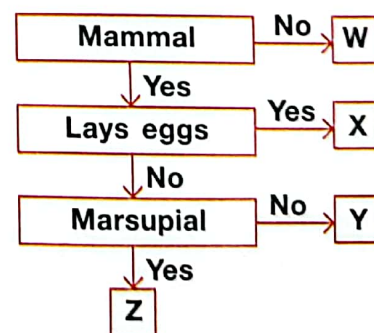
(iii) They are made up of gases and do not have solid surfaces.

(iv) Both of them rotate from East to West direction.

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

- 33 Refer to the given flow chart and select the option that correctly identifies W-Z.

W	X	Y	Z
A. Butterfly	Bat	Koala	Kangaroo
B. Crocodile	Rat	Ostrich	Opossum
C. Salamander	Platypus	Dog	Koala
D. Stick insect	Echidna	Opossum	Bat



SPACE FOR ROUGH WORK

34 Match the columns and select the correct option from the given codes.

Column I (Place)	Column II (Traditional outfit)
P. Kashmir	(i) Mundu
Q. Gujarat	(ii) Neriyaathu
R. Maharashtra	(iii) Pheta
S. Kerala	(iv) Kediya
	(v) Phiran
	(vi) Nauvari saree

- A. P - (iii); Q - (ii), (v); R - (i); S - (iv), (vi)
 B. P - (iv); Q - (i), (ii); R - (v); S - (iii), (vi)
 C. P - (v); Q - (iv); R - (iii), (vi); S - (i), (ii)
 D. P - (i), (vi); Q - (v); R - (iii), (iv); S - (ii)

35 Read the given statements and select the option that correctly identifies true (T) and false (F) ones.

- (i) Iron and calcium are the main minerals responsible for maintaining water balance in human body.
 (ii) Tongue has tiny bumps called villi that help in identifying different tastes.
 (iii) Dentine is the soft substance that fills the empty space within the tooth.
 (iv) Sleeping sickness and athlete's foot are the diseases caused by fungi.

	(i)	(ii)	(iii)	(iv)
A.	T	F	T	F
B.	F	F	F	F
C.	F	F	T	T
D.	T	T	T	F

SPACE FOR ROUGH WORK

Techfest
IIT Bombay
Asia's Largest Science & Technology Festival



For latest updates & information, please like our Facebook page (www.facebook.com/sofworld) or register on www.sofworld.org/subscribe-updates.html

For Level 1 and Level 2 preparation material / free sample papers, please log on to www.mtg.in



Head Office: Plot 99, Sector 44 Institutional area, Gurugram -122 003 (HR), India
 Email: info@sofworld.org | Website: www.sofworld.org