

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE ASKED TO DO SO



GRADE - 4

SCIENCE

SAMPLE PAPER

IOA SCIENCE OLYMPIAD – 2019 - 20

Test Booklet Series

Set - 0

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Student's Name:

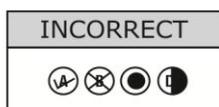
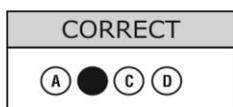
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Maximum Time: 75 Minutes

Maximum Marks: 90

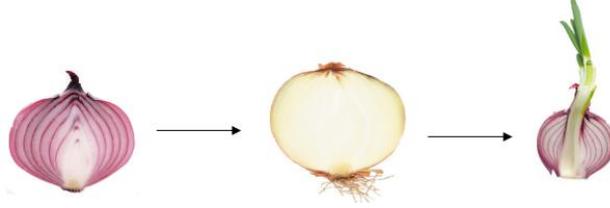
INSTRUCTIONS

1. Please **DO NOT OPEN** the contest booklet until the proctor has given permission to start.
2. There are 36 questions in this paper. 2 points, 3 points will be awarded for each correct question in Foundation, and Exploration respectively. 1 point will be deducted for each incorrect answer, and no penalty for skipping a question.
3. All questions are compulsory. There is only ONE correct answer to each question.
4. No electronic devices capable of storing and displaying visual information are allowed during the exam.
5. Use of **calculator** is strictly prohibited in the exam.
6. Fill your **Name, Roll No., Grade and School Name** in the answer sheet.
7. To mark your choice of answers by darkening the circles in the Answer Sheet, use an HB Pencil or a **Blue/Black Ball Point Pen** only.
8. Shade your answer clearly as per the example is shown below:



Foundation: (2 POINTS)

1. The diagram below shows the stages of development of an onion plant.

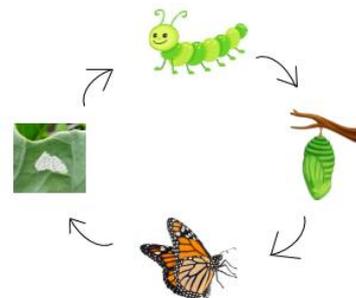


Which of the following statements are true about an onion?

- (A) The onion is a seed
 (B) The condition must be right before an onion can grow into a plant
 (C) The onion helps the plant to reproduce (D) Both b and c
2. Which of the following plants have special breathing roots?
 (A) Cactus (B) Aloe Vera (C) Duckweed (D) Tulsi
3. What is the reason behind trapping and eating insects by pitcher plants?
 (A) They grow in soil that is poor in nutrient
 (B) They grow in soil that is poor in water
 (C) They cannot get carbon dioxide from air
 (D) They do not have sufficient chlorophyll and stomata
4. In which of these conditions, the potted plant would be able to carry out the process of making food?
 (A) A potted plant placed in a fully enclosed wooden cupboard
 (B) A potted plant placed in dry soil in the pot
 (C) A potted plant with all its leaves smeared with oil
 (D) A potted plant placed near an open window and well watered

5. Observe the life cycle of a butterfly. Here X will be _____.

- (A) Egg (B) Pupa
 (C) Adult butterfly (D) Small butterfly



6. Match the following.

I. Arboreal animals

II. Hibernation

III. Aerial animals

IV. Amphibians

(A) I- (i), II- (iii), III- (ii), IV- (iv)

(C) I- (iv), II- (iii), III- (i), IV- (ii)

(i) Parrot

(ii) Toads

(iii) Bear

(iv) Monkeys

(B) I- (ii), II- (i), III- (iii), IV- (iv)

(D) I- (iv), II- (iii), III- (ii), IV- (i)

7. Identify the animals which do not have backbone?

- I. 
- II. 
- III. 
- IV. 
- V. 
- (A) II and V (B) I and III (C) I, II, III and V (D) I and II

8. Why can't the turkey fly?

- I. It has underdeveloped wings
 II. It is too heavy
 III. It has hollow bones
 IV. It has very few feathers
- (A) I and III (B) I and II (C) II and IV (D) I, II, III and IV

9. Our nose and ear are flexible because they are made of _____.

- (A) Bone marrow (B) Joints (C) Cartilage (D) Bones

10. Which of the following food items can be cooked by frying?

- (A) Samosa (B) Pakoda (C) French fries (D) All of them

11. Intake of _____ prevent us from scurvy disease and it also helps in curing common cold.

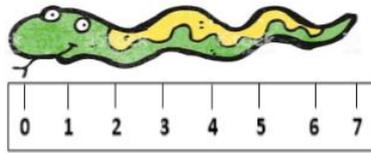
- (A) Green leafy vegetables (B) Whole wheat bread
 (C) Egg and meat (D) Citrus fruits

12. The given statements précising the process of digestion are not given in a correct sequence. Arrange them in sequence and select the correct option for them.

- P. Mixing with saliva
 Q. Expulsion of faeces
 R. Complete digestion of food and absorption of nutrients
 S. Absorption of water
 T. Churning of food and addition of digestive juices

- (A) P → T → R → S → Q (B) P → R → T → Q → S
 (C) P → T → R → Q → S (D) S → T → P → Q → R

13. What is the length of the snake shown in the figure?



- (A) 4 inch (B) 5 inch (C) 7 inch (D) 3.5 inch

14. Which of the following is a unit of measurement of volume?

- (A) Millimeter (B) Degree Celsius (C) Meters (D) Liters

15. Weight of one mango = 250 g. How many mangoes will weigh in 2 kilograms?

- (A) 4 (B) 5 (C) 6 (D) 8

16. Match the following and choose the correct option shown below.

I	II
A Length	i Dollar
B Time	ii Kilogram
C Money	iii Second
D Weight	iv Meter

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

17. There are 2 dozen eggs in a box. Half of them are cracked. How many eggs are left?

- (A) 1 dozen eggs (B) 12 eggs (C) Both a and b (D) 14 eggs

18. The smallest time measured by a wrist watch accurately is _____.

- (A) 1 mill second (B) 60 second (C) 1 second (D) 1 hour

Exploration (3 POINT)

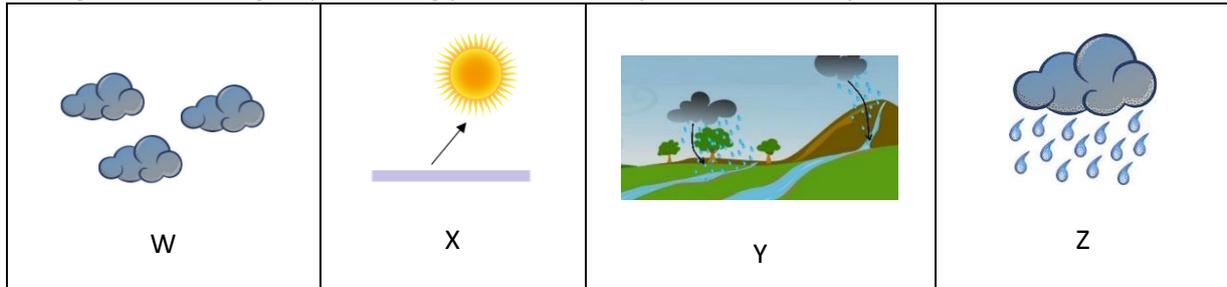
19. Fine volcanic ash is given off when active volcanoes erupt. The volcanic ash is an example of _____.

- (A) Noise pollution (B) Air pollution (C) Water pollution (D) Land pollution

20. Rivers constantly erode soil on their banks. This can be prevented by _____.

- (A) Over grazing (B) Terrace farming (C) Afforestation (D) Building embankments

21. Arrange the following steps showing process water cycle in correct sequence.



- (A) W, X, Y, Z (B) Z, X, Y, W (C) X, W, Z, Y (D) W, Z, Y, X

22. Whenever we use the T. V, hair dryer, air conditioners, we release 'y' gases into the air. Which of these is one of the 'y' gases?

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

23. Read the following statements.

I. I am present in air

II. Your body needs me to produce energy

III. I enter your lungs when you breathe in

Name the gas that represents above statements.

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

24. Match the following and select the correct option.

Causes of soil erosion	Methods of soil conservation
A. Deforestation	(i) Wind break
B. Running water carries top soil with it	(ii) Terrace farming
C. Strong wind blows away top soil	(iii) Afforestation

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

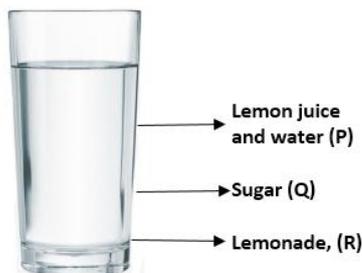
25. Which of the following material you will use make bangles?

- (A) Plastic (B) Gold (C) Glass (D) All of them

26. What is the reason that people do not commonly use silver to make electrical wires?

- (A) Silver is not commonly available in the market
 (B) Silver cannot conduct electricity well enough
 (C) Silver is the best conductor, yet it is expensive
 (D) Silver easily melts

27. Give correct name to P, Q and R.



A Glass of lemonade

- (A) P- Solvent, Q- Solute R- Solution
- (B) P- Solute Q- Solvent, R- Solution
- (C) P- Solution, Q- Solute R- Solvent
- (D) P- Solvent, Q- Solution, R- Solute

28. Read the conversation between mother and daughter and answer the following question.

Mother- "The Naphthalene balls are kept between woolen clothes to keep them protected from insects".

Riya- "Yes, but I wonder why their size reduces after few days"?

Mother- "This is because those balls directly change into gases".

The process about which Riya's mother is talking is called _____.

- (A) Freezing
- (B) Boiling
- (C) Sublimation
- (D) Condensation

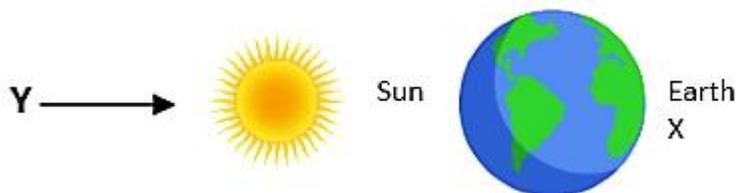
29. Match the following.

I	II
A. Natural satellite	(i) Sun's family
B. Aryabhata	(ii) No Longer a planet
C. Solar system	(iii) Man-made satellite
D. Pluto	(iv) Moon

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

30. Study the given diagram and answer the following question.

Approximately how long will it take for the earth to reach from X to Y in its orbit around the sun?



- (A) 210 days
- (B) 160 days
- (C) 180 days
- (D) 365 days

31. Read the statements shown below and answer the following question.

I. Earth is like half boiled egg

II. The outer surface of earth is hard, but deep inside it contains molten material

Which of the above statements are correct?

- (A) I and II both are correct
(C) II correct

- (B) II is correct explanation of I
(D) Both a and b

32. Study given table and answer the following question.

Planet	Approx. distance from sun (million km)	Approx. time taken to make a revolution around the sun
Mercury	46	88 days
Saturn	1427	29 years
Venus	107	225 days
Earth	147	1 year
Jupiter	741	12 year

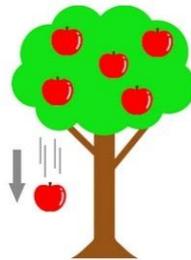
Planet Neptune is about 4504 million km away from the sun. How long would this planet probably take to revolve around the sun?

- (A) 95 days (B) 165 days (C) 110 days (D) 10 year

33. A ball rolling on the floor stop after covering some distance. Name the force that stoppe the rolling ball.

- (A) Gravitational force (B) Muscular force (C) Frictional force (D) Elastic force

34. The given figure is an example of _____ force.



- (A) Gravitational (B) Frictional (C) Muscular (D) Elastic

35. Hair puts a ring on a glass- topped table and flicked it with his finger. He used a ruler to measure the distance travelled by the ring. Then he carried out, the same test by laying a piece of newspaper, a cotton cloth, and a sand paper, in turns on the table. On which surface will the ring travel farthest?

- (A) Cotton cloth (B) Glass table (C) Sand paper (D) Newspaper

36. A scissor is a compound machine made up of a combination of simple machines. Which simple machines combine to make the scissor?

- I. Lever
II. Pulley
III. Wheel and axle
IV. Wedge

- (A) I and II (B) II and III
(C) I and III (D) I and IV

