

# MINDATHON SCIENCE OLYMPIAD (MSO)

## CLASS- VI

### TEST PAPER

Time: 1 hour

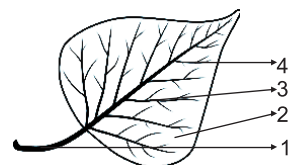
Max Marks: 50

#### General Instructions:

- There are a total of 45 questions in this test.
- Read each question carefully and answer all of them.
- All the answers must be correctly marked in the OMR sheet provided to you.
- Questions (1–30 & 36-45) carry one mark each. Questions in the 'Mindathon Little Scientists' (31-35) carry 2 marks each.

#### SECTION A: GENERAL SCIENCE AND SCIENTIFIC AWARENESS

- Following are a few statements about diseases.  
(i) They are prevented by maintaining personal hygiene and cleanliness of surroundings.  
(ii) They are caused due to prolonged deficiency of certain nutrients in our diet.  
(iii) They can be transmitted to other person through air, water, vectors or contact.  
(iv) They can be prevented by a balanced diet.  
Which statement (s) describe a solution to deficiency disease?  
a) (i) and (ii)                      b) (ii) and (iii)                      c) only (iv)                      d) (i) and (iii)
- If sand: sedimentation, vinegar:  
a) floatation                      b) decantation                      c) filtration                      d) dissolution
- Glass and pebbles are different from each other because  
a) glass is transparent and pebbles are opaque                      b) glass is fragile and pebbles are strong  
c) glass is insulator and pebbles are conductor                      d) all of the above
- Shalu, Sonu and Soni wanted to make a saturated salt solution. Soni used hot water, Sonu took water from the fridge and Shalutook water at room temperature. All of them started dissolving salt in their water. Who succeeds in making the saturated solution first?  
a) Shalu                      b) Sonu                      c) Soni                      d) none of them
- Match the columns in the following:  
(i) to remove small pebbles from rice                      I. Threshing  
(ii) to remove husk from flour                      II. Evaporation and condensation  
(iii) to separate grain from stalk                      III. Sieving  
(iv) to separate salt from water                      IV. Hand picking  
a) (i)-IV, (ii)-III, (iii)-I, (iv)-II                      b) (i)-III, (ii)-IV, (iii)-I, (iv)-II  
c) (i)-IV, (ii)-III, (iii)-II, (iv)-I                      d) (i)-IV, (ii)-I, (iii)-III, (iv)-II
- Parts (1), (2), (3) and (4) respectively in the following diagram of a leaf are  
a) petiole, lamina, veins, midrib  
b) petiole, midrib, lamina, veins  
c) lamina, petiole, veins, midrib  
d) midrib, petiole, lamina, veins

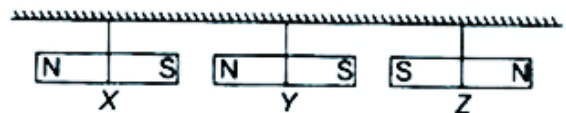


7. The plant which is kept in the dark for sprouting of its seeds is
  - a) Zinnia
  - b) Calendula
  - c) both a) and b)
  - d) Coleus and Petunia
8. We find asteroids between the orbits of
  - a) Mercury and Venus
  - b) Earth and Mars
  - c) Mars and Jupiter
  - d) Saturn and Uranus
9. Identify the pair of mismatched organism and its habitat.
  - a) Mangroves-marshes
  - b) keekar - desert
  - c) squid-freshwater
  - d) lion-rainforest
10. All living things respond to stimuli. Which of these is not an example of response to stimulus?
  - a) Watering in mouth on smell of food
  - b) Turning of sunflower towards sunlight
  - c) Shutting of eyes on sudden flash of light
  - d) hatching of an egg
11. To express the value of a measure, we compare an unknown quantity with a known one. The known quantity is called
  - a) unit
  - b) tesla
  - c) joule
  - d) metre
12. The length of the object shown in the picture is -
  - a) 3.2 cm
  - b) 3.3 cm
  - c) 3.4 cm
  - d) 3.5 cm
13. The stage of life which does not occur in a frog is
  - a) froglet
  - b) pupa
  - c) tadpole
  - d) none of the above
14. When a patch of oil is formed on a sheet of paper, it becomes
  - a) translucent
  - b) transparent
  - c) opaque
  - d) none of these
15. The clinical thermometer cannot be used to measure temperature of
  - a) boiling water
  - b) a person having hypothermia
  - c) a Covid-19 patient
  - d) all of these

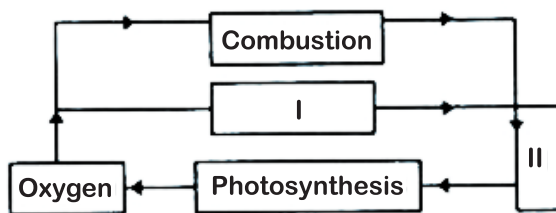


## SECTION B: EVERYDAY SCIENCE

16. The true fact about celestial objects seen in the sky is
  - a) pole star keeps on changing its position with the rotation of earth.
  - b) the brightest star can be located with the help of constellation Orion.
  - c) sometimes tail of the comets points towards the sun and sometimes towards the earth.
  - d) a meteor reaches the surface of the earth.
17. Three magnets are suspended from a rigid support as shown below. What will you observe?
  - a) None of the magnets move.
  - b) The middle magnet starts rotating.
  - c) Magnet Y moves towards magnet X.
  - d) Magnet Y moves towards magnet Z.
18. Identify the incorrect statement in the following.
  - a) a stronger magnet is produced when stroked more times with another magnet.
  - b) If number of turns in a coil is more, magnet remains weak.
  - c) Repulsion is a sure test of magnetism.
  - d) If magnet is heated to high temperature, it may get demagnetised.
19. The following objects are rotated over a pivot. Which of these come to rest in N-S direction?
  - a) compass needle
  - b) tooth pick
  - c) refill of pen
  - d) paint brush
20. Which of the following objects make use of a magnet?
  - a) A shirt button
  - b) pliers
  - c) A can opener
  - d) A door stopper



21. Which of these can be best fitted at positions I and II below?



- |                   |                    |
|-------------------|--------------------|
| a) I: water cycle | II: water vapour   |
| b) I: digestion   | II: carbon dioxide |
| c) I: respiration | II: water vapour   |
| d) I: respiration | II: carbon dioxide |

22. The body building foods in our diet consist of

- |   |                          |
|---|--------------------------|
| a) Plant based proteins                       | b) animal based proteins |
| c) both plant based and animal based proteins | d) tablets of proteins   |

23. Identify the odd one out from the following :

- |              |                   |
|--------------|-------------------|
| a) griddle   | b) chopping board |
| c) air fryer | d) spatula        |

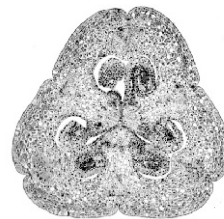
24. Dad asked Preeti for a glass of cold water. She observed that some water droplets appeared on the outer walls of the glass as soon as she poured water in it. How would this happen?

- |   |                                 |
|---|---------------------------------|
| a) melting of ice in the glass              | b) Water spilled out by mistake |
| c) Condensation of atmospheric water vapour | d) The glass was leaking        |

25. The ovary of a lily plant was observed under a microscope.

The bead like structures as shown below are

- a) Pollen grains  
b) anthers  
c) ovules  
d) peduncle



26. The rock which is used to make bricks is

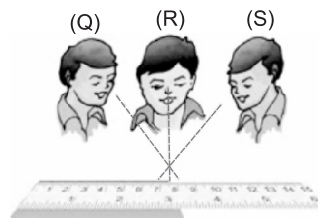
- |          |             |              |          |
|----------|-------------|--------------|----------|
| a) slate | b) laterite | c) sandstone | d) shale |
|----------|-------------|--------------|----------|

27. A plant has long and hollow stem, with roots reduced in size. Its leaves are likely to be

- |                           |                           |
|---------------------------|---------------------------|
| a) thin and needle shaped | b) spiny                  |
| c) long and slender       | d) flat with waxy surface |

28. While taking a measure on a scale, which of the boys has kept his eye at the correct position?

- a) Q  
b) R  
c) S  
d) all of them



29. The cluster of eggs laid by frogs in water and covered by a jelly like substance is called

- |           |           |          |           |
|-----------|-----------|----------|-----------|
| a) embryo | b) cavier | c) spawn | d) maggot |
|-----------|-----------|----------|-----------|

30. The centres for silk production in India are set up by which of the following departments in the administration?

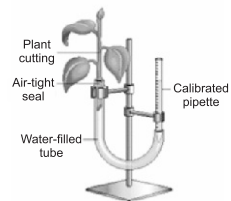
- |         |         |         |         |
|---------|---------|---------|---------|
| a) ISRO | b) KVIC | c) DRDO | d) CDRI |
|---------|---------|---------|---------|

### SECTION C: MINDATHON LITTLE SCIENTISTS

31. You are given a cotton ball which you place in a tumbler/bowl filled with water for a few minutes. Will it float or sink in water?

- |                          |                          |                 |                |
|--------------------------|--------------------------|-----------------|----------------|
| a) first float then sink | b) first sink then float | c) always float | d) always sink |
|--------------------------|--------------------------|-----------------|----------------|

32. Read the following information about photosynthesis:
- (i) It takes place in the presence of sunlight and chlorophyll.
  - (ii) Oxygen and water are required.
  - (iii) It takes place in green leaves.
  - (iv) It produces food in the form of nitrogenous products.
- Which of the above statements are true?
- a) (iii) and (iv)                      b) (i) and (iii)                      c) (ii) and (iv)                      d) (i) and (iv)
33. Match the following with the material required to make them.
- |                           |                   |
|---------------------------|-------------------|
| A. rubber band            | P. wood           |
| B. silk scarf             | Q. plant product  |
| C. picture frame          | R. steel          |
| D. surgical cutting tools | S. animal product |
- a) A-Q, B-S, C-P, D-R                      b) A-S, B-Q, C-P, D-R
- c) A-Q, B-S, C-R, D-P                      d) A-Q, B-P, C-S, D-R
34. The instrument shown here is \_\_\_\_\_ and is used to measure \_\_\_\_\_.  
 a) Potometer, rate of transpiration  
 b) hygrometer, rate of water absorption by roots  
 c) osmometer, humidity percent  
 d) potentiometer, water retention ability
35. Which of the following is true about the fossil fuels?  
 a) They are less efficient.  
 b) They are non conventional and non exhaustible.  
 c) Their combustion releases greenhouse gases in the air.  
 d) None of these are true.



## SECTION D: CASE STUDIES

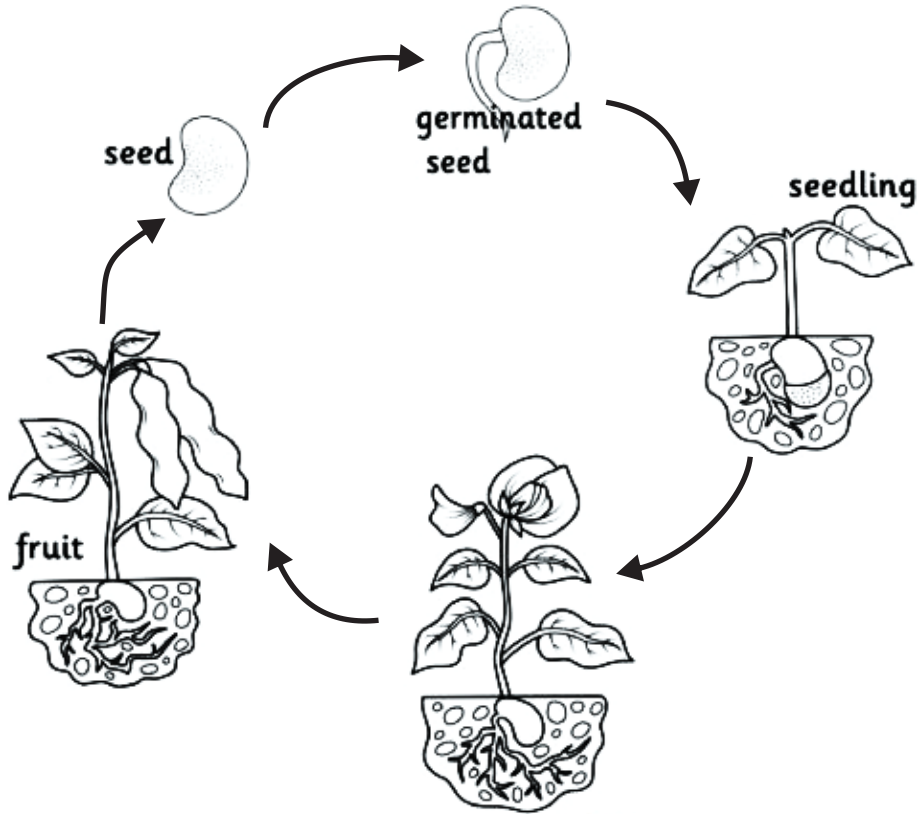
- I. Rocks are formed up of minerals. Minerals are used to extract valuable metals including copper, gold, iron, and aluminum. Minerals are utilized in the production of jewellery, cosmetics, automobiles, aircraft and electrical and electronic devices. For instance, there are over a dozen different minerals, including gold, silver, copper, cobalt, and others in our standard cell phones. Rocks are essential to our existence. Rocks form over a period of hundreds to millions of years. Therefore, it is important to conserve and use them wisely.
36. Identify the true statement among the following:  
 a) All minerals are ores.  
 b) All minerals are ores but all ores are not minerals.  
 c) All ores are minerals but all minerals are not ores.  
 d) Minerals are extracted from the ores.
37. Sandstone is an example of which of the following type of rocks?  
 a) Metamorphic rock                      b) Sedimentary rock  
 c) Igneous rock                      d) None of the above
38. Which of the following rocks is formed from molten magma?  
 a) Sedimentary rock                      b) Igneous rock  
 c) Metamorphic rock                      d) Granite
39. Which of the following is not an example of metamorphic rock?  
 a) Limestone                      b) Sandstone  
 c) Both (a) and (b)                      d) Neither (a) nor (b)

40. Which of the following is a plutonic rock?

- a) Granite
- c) Gypsum

- b) Gneiss
- d) None of the above

II. Observe the following life cycle of a bean plant and answer the questions which follow



41. The seeds which do not have the same number of cotyledons like bean include

- a) Rice
- c) maize
- b) wheat
- d) all of these

42. The conditions necessary for the germination of bean seeds are

- a) Air
- c) sunlight
- b) water
- d) all of these

43. The part of the baby plant which grows into the root is called

- a) Radicle
- c) hilum
- b) plumule
- d) cotyledon

44. Some sprouted bean seeds were taken and pressed between the folds of a paper. It was observed that

- a) the paper turned translucent
- c) the paper just became wet
- b) the paper turned transparent
- d) the paper wasn't affected at all

45. Beans are considered a good dietary option because

- a) It is rich in proteins.
- c) It is rich in carbohydrates.
- b) It is rich in essential fatty acids.
- d) It is rich in vitamins and minerals.