

Mindbenz Olympiad of Science (MOS)

Sample Paper

Class - 6

Maximum Marks: 60

Time Allowed – 55 Minutes

Section: A Concept Check (10 Questions × 1 mark = 10 marks)

1. Which of the following is a characteristic of all living organisms?

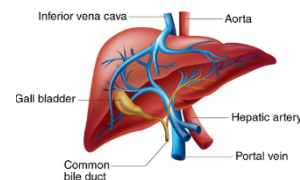
- A) They can move from place to place
- B) They all have wings
- C) They respond to stimuli
- D) They are visible to the naked eye

2. What will happen if you cover a plant's leaves with black paper?

- A) The plant will grow faster
- B) It will produce more oxygen
- C) It won't be able to photosynthesize properly
- D) It will produce more flowers

3. Which of the following correctly matches the function and organ?

- A) Digestion – Heart
- B) Pumping blood – Lungs
- C) Breathing – Liver
- D) Digestion – Small intestine



4. You want to measure the length of a curved banana. Which tool will give you the most accurate result?

- A) Ruler
- B) Measuring tape
- C) Weighing scale
- D) Thermometer



5. How can you separate oil from water without using a machine?

- A) Filtering
- B) Using magnet
- C) Decanting carefully
- D) Freezing it

6. You bend a plastic ruler and it comes back to shape. What kind of change is this?

- A) Irreversible
- B) Reversible
- C) Chemical
- D) Unpredictable

7. A magnet is broken into two. What happens to the poles?

- A) They disappear
- B) Only one pole remains
- C) Each piece becomes a magnet with both poles
- D) Magnet becomes useless

8. You see the Moon change shape every few days. What causes this?

- A) The Moon spinning fast
- B) Clouds covering it
- C) Different parts of the Moon being lit by sunlight as it orbits the earth
- D) The stars moving

9. Assertion (A): Wool is obtained from the fleece of sheep.

Reason (R): The fleece provides the raw material for wool production.

Options:

- A) Both A and R are true, and R is the correct explanation of A.
- B) Both A and R are true, but R is not the correct explanation of A.
- C) A is true, but R is false.
- D) A is false, but R is true.



10. Assertion (A): Like poles of magnets repel each other.

Reason (R): The same magnetic poles have similar charges and repel each other.

Options:

- A) Both A and R are true, and R is the correct explanation of A.
- B) Both A and R are true, but R is not the correct explanation of A.
- C) A is true, but R is false.
- D) A is false, but R is true.

Section: B Application Zone (10 Questions × 1 mark = 10 marks)

11. Assertion (A): A circuit is a closed loop that allows current to flow.

Reason (R): A break in the circuit will stop the flow of electricity.

Options:

- A) Both A and R are true, and R is the correct explanation of A.
- B) Both A and R are true, but R is not the correct explanation of A.
- C) A is true, but R is false.
- D) A is false, but R is true.

12. A plant is placed in a transparent jar with black paper covering the leaves. After 3 days, the leaf doesn't turn starch-positive. Why?

- A) The leaf died
- B) Black paper didn't allow photosynthesis
- C) Jar was transparent
- D) The leaf fell asleep

13. A child needs 1800 kcal/day. If they consume 600 kcal at breakfast and 750 kcal at lunch, how much should be eaten at dinner?

- A) 350 kcal
- B) 400 kcal
- C) 500 kcal
- D) 600 kcal

14. A toy car moves 5 meters in 2 seconds on a smooth floor and 5 meters in 4 seconds on a rough floor. What is the average speed over the full journey?

- A) 1.66 m/s
- B) 2.0 m/s
- C) 1.5 m/s
- D) 2.75 m/s

15. Which of these tools measures the diameter of a wire accurately?

- A) Ruler
- B) Stopwatch
- C) Screw gauge
- D) Spring balance



16. A cotton factory makes 2.5 m of cloth from 1 kg of raw cotton. How much cloth is made from 12 kg?

- A) 25 m
- B) 30 m
- C) 35 m
- D) 30 m

17. Which of the following is a negative geotropic response?

- A) Roots growing into the soil
- B) Shoots growing upward against gravity
- C) Leaves bending toward light
- D) Tendrils climbing a stick

18. A person eats food but still feels tired. Which of the following could be the reason?

- A) Overeating
- B) Lack of exercise
- C) Body cannot absorb nutrients properly
- D) Eating too slowly

19. If a magnet attracts 12 pins in 1 minute, how many pins can 3 such magnets attract in 10 minutes?

- A) 120
- B) 360
- C) 180
- D) 240

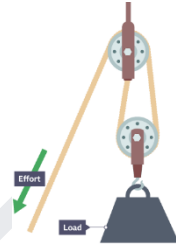
20. A lever helps by:

- A) Reducing time
 - B) Increasing load
 - C) Changing the direction or reducing effort
 - D) Creating energy
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Section: C: Higher Order Thinking (20 Questions × 2 marks = 40 marks)

21. A pulley system makes lifting a load easier but the load moves slower. Why?

- A) The pulley decreases the work done
- B) The pulley increases the distance over which force is applied
- C) The pulley multiplies the force but reduces time
- D) The pulley converts potential energy to kinetic energy



22. A person runs and starts breathing heavily. Why?

- A) Muscles produce less energy when resting
- B) More oxygen is needed to produce more energy
- C) Lungs are weak during running
- D) Heart rate decreases during running

23. A cactus has thick stems and spines instead of leaves. What is the most important function of these adaptations?

- A) To support the plant
- B) To attract insects
- C) To reduce water loss and store water
- D) To help the plant grow taller

24. Why is the clinical thermometer not used to measure boiling water?

- A) It cannot show more than 42°C
- B) It can burst as mercury within could expand due to boiling water.
- C) It is too large
- D) Both A & B

25. Ice cube is placed in a beaker of water. What will happen to water level after ice melts?

- A) Level rises
- B) Level falls
- C) Level remains the same
- D) Level fluctuates



26. Wool fibers are preferred over cotton for winter clothes because:

- A) Wool absorbs water
- B) Wool traps air and provides insulation
- C) Wool is shiny
- D) Wool is heavier

27. Earth rotates once every 24 hours. If the rotation speed suddenly doubled, what immediate effect would be observed?

- A) Days become 12 hours
- B) Nights become longer
- C) Gravity decreases drastically
- D) The length of a day decreases to 12 hours



28. If a region experiences deforestation, what is the immediate impact on the water cycle?

- A) More rain due to less transpiration
- B) Less rainfall and reduced groundwater recharge
- C) No impact on water cycle
- D) Increased humidity

29. Two magnets are placed near each other with opposite poles facing but with a wooden block in between. What will happen?

- A) They will attract through the block though the force may be reduced
- B) They will repel
- C) No force will act
- D) Magnets lose magnetism

30. You have a mixture of sand, salt, and iron fillings. After separating iron with a magnet, you dissolve the remaining in water. How would you get back the salt?

- A) Filtration
- B) Sedimentation
- C) Evaporation
- D) Decantation

31. If a person consumes 80g carbohydrates, 30g proteins, and 20g fats, what is their total energy intake?

- A) 670 kcal
- B) 770 kcal
- C) 820 kcal
- D) 900 kcal

32. Why is iron a better material for construction compared to aluminium, although both are metals?

- A) Iron is heavier
- B) Iron is magnetic
- C) Iron is stronger and more durable
- D) Aluminium is non-metallic

33. If a sealed bottle filled with air and a small amount of water is kept in the freezer, what would happen?

- A) Air freezes
- B) Water evaporates
- C) Water freezes and air contracts
- D) Bottle explodes

34. A salt solution contains 50g salt in 250 mL water. What is the salt concentration in g/L?

- A) 100 g/L
- B) 150 g/L
- C) 200 g/L
- D) 250 g/L

35. A satellite travels 2000 km in 10 minutes. What is its speed in km/h?

- A) 12000 km/h
- B) 8000 km/h
- C) 10000 km/h
- D) 6000 km/h

36. A solar panel produces 150 W for 6 hours per day. What is the weekly output in Wh?

- A) 5400 Wh
- B) 6300 Wh
- C) 900 Wh
- D) 7200 Wh

37. A student wraps a copper wire around an iron nail and connects it to a battery. The nail attracts paper clips. What is happening?

- A) It becomes a magnet due to static electricity
- B) It becomes an electromagnet
- C) The battery charges the nail
- D) The nail is magnetic

38. You have a mixture of salt, sand, and iron filings. Which is the correct order of separation?

- A) Filter → Magnet → Evaporate
- B) Magnet → Filter → Evaporate
- C) Magnet → Evaporate → Filter
- D) Filter → Evaporate → Magnet

39. Which of the following adaptations is least likely to be seen in an aquatic plant?

- A) Spongy air-filled tissues
- B) Waxy leaves
- C) Long roots
- D) Floating leaves

40. Two magnets placed with north poles facing each other are 5 cm apart. If one is moved to 2.5 cm, the repulsion force becomes:

- A) Doubled
- B) Tripled
- C) Four times
- D) Halved

ANSWER KEY

- 1. C)
- 2. C)
- 3. D)
- 4. B)
- 5. C)
- 6. B)
- 7. C)
- 8. C)
- 9. A)
- 10. A)
- 11. A)
- 12. B)
- 13. A)
- 14. A)
- 15. C)

- 16. B)
 - 17. B)
 - 18. C)
 - 19. B)
 - 20. C)
 - 21. B)
 - 22. B)
 - 23. C)
 - 24. B)
 - 25. C)
 - 26. B)
 - 27. D)
 - 28. B)
 - 29. A)
 - 30. C)
 - 31. A)
 - 32. C)
 - 33. C)
 - 34. C)
 - 35. A)
 - 36. B)
 - 37. B)
 - 38. B)
 - 39. C)
 - 40. C)
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