MCQ Paper - example

Generated Question Paper

MCQ Examination

Name: _____

Class: _____ Section: _____

Roll no.: _____

Instructions:

- Fill OMR sheet with blue/black pen.
- Fill circles completely.
- No stray marks.
- Enter Name, Class, Section.

SET B

Questions: **24**
Duration: **120min**

Science Fundamentals

This section covers basic concepts in physical sciences and natural phenomena.

1. *What is the SI base unit for electric current?*

A. Volt **B.** Ohm
C. Watt **D.** Ampere

2. *Consider this statement about ecosystems:*

Decomposers break down dead matter and return nutrients to soil.

What do decomposers do?

A. Control populations **B.** Recycle nutrients
C. Store energy **D.** Produce oxygen

3. *Analyze this statement about circuits:*

In series circuits, the same current flows through all components.

How does current behave in series circuits?

A. Current decreases **B.** Current stays same
C. Current alternates **D.** Current increases

4. **Assertion (A):**

Metals are good conductors of electricity.

Reason (R):

Metals have free electrons that can move easily through the material.

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

5. *Match the elements with their atomic numbers.*

Elements	-	Atomic Numbers
A. Hydrogen	-	8
B. Helium	-	6
C. Carbon	-	2
D. Oxygen	-	1

A. A-2, B-1, C-8, D-6 **B.** A-1, B-6, C-2, D-8
C. A-8, B-6, C-2, D-1 **D.** A-1, B-2, C-6, D-8

6. **Assertion:**

Sound travels faster in solids than in gases.

Reason:

Particles in solids are more closely packed, allowing vibrations to transmit more efficiently.

A. Assertion correct, reason incorrect
B. Both correct, reason doesn't explain assertion
C. Both correct, reason explains assertion
D. Both incorrect

7. *Which of the following are states of matter?*

i. Solid
ii. Liquid
iii. Gas
iv. Plasma

A. i, ii, and iii only **B.** ii and iii only
C. All of the above **D.** i and ii only

8. *Read the statement about chemical reactions:*

Chemical reactions need activation energy to proceed.

What is required for reactions to occur?

A. Presence of water **B.** Low temperature
C. Activation energy **D.** High pressure

9. *A light ray travels from air into glass.*
What phenomenon occurs at the boundary?

A. Neither reflection nor refraction
B. Refraction only **C.** Both reflection and refraction
D. Reflection only

10. *Read the following passage about photosynthesis:*

Photosynthesis is the process by which green plants and some bacteria convert carbon dioxide and water into glucose using sunlight as energy. This process occurs primarily in the chloroplasts of plant cells. The overall chemical equation is: $6CO_2 + 6H_2O$ + light energy → $C_6H_{12}O_6 + 6O_2$. This process not only produces food for the plant but also releases oxygen as a byproduct, which is essential for most life forms on Earth.

According to the passage, what are the main products of photosynthesis?

A. Glucose and oxygen
B. Sunlight and chloroplasts
C. Water and energy
D. Carbon dioxide and water

11. *What is the chemical symbol for water?*

A. NaCl **B.** CO2
C. O2 **D.** H2O

12. *Consider the following statement about gravity:*

Statement:

Objects with greater mass exert stronger gravitational force.

Is this statement scientifically accurate?

A. True only on Earth **B.** False
C. True **D.** True only in space

13. *To measure the volume of an irregularly shaped object, follow these steps:*

A. Record the new water level.

B. Fill a measuring cylinder with water and note the initial level.

C. Calculate the difference between final and initial water levels.

What is the correct sequence?

A. A → B → C **B.** C → A → B
C. B → C → A **D.** B → A → C

Mathematics Basics

This section tests fundamental mathematical concepts and problem-solving skills.

14. *Match the geometric shapes with their number of sides.*

Geometric Shapes	-	**Number of Sides**
A. Triangle	-	6 sides
B. Square	-	4 sides
C. Pentagon	-	5 sides
D. Hexagon	-	3 sides

A. A-4, B-3, C-6, D-5 **B.** A-3, B-4, C-5, D-6
C. A-6, B-4, C-3, D-5 **D.** A-3, B-5, C-4, D-6

15. *To solve a quadratic equation $ax^2 + bx + c = 0$ using the quadratic formula:*

A. Apply the quadratic formula $x = (-b \pm \sqrt{(b^2 - 4ac)})/(2a)$

B. Identify the coefficients a, b, and c

C. Simplify to get the final answer(s)

What is the correct order of steps?

A. B → C → A **B.** A → B → C
C. B → A → C **D.** C → A → B

16. *Evaluate the following statement about prime numbers:*

Statement:

Every even number greater than 2 is composite.

A. True only for numbers less than 10 **B.** False
C. True **D.** Cannot be determined

17. *Which of the following are properties of rectangles?*

i. Opposite sides are parallel
ii. All angles are 90 degrees
iii. Diagonals are equal in length
iv. All sides are equal

A. i, ii, and iii only **B.** i and ii only
C. ii and iv only **D.** All of the above

18. *What is the area of a circle with radius 3 units?*

A. 9π square units **B.** 18π square units
C. 3π square units **D.** 6π square units

19. *Consider the following statements about renewable energy sources:*

Statement-1:

Solar energy is the most widely used renewable energy source globally.

Statement-2:

Wind power generates electricity without producing greenhouse gas emissions during operation.

Statement-3:

Hydroelectric power plants can only be built on fast-flowing rivers.

A. All statements are correct **B.** 1 and 3 only
C. 2 only **D.** 1 and 2 only

20. **Assertion (A):**

The median of a dataset is always one of the values in the dataset.

Reason (R):

The median is the middle value when data is arranged in order.

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

21. *What is the result of 15 × 8?*

A. 130 **B.** 115
C. 125 **D.** 120

22. *Read the passage about probability:*

Probability is a measure of the likelihood that an event will occur. It is expressed as a number between 0 and 1, where 0 means the event cannot happen and 1 means the event is certain to happen. For a fair coin, there are two equally likely outcomes when flipped: heads or tails. Since only one of these two outcomes is the desired result (heads), the probability is calculated as the number of favorable outcomes divided by the total number of possible outcomes.

What is the probability of getting heads when flipping a fair coin?

A. 0 **B.** 0.5
C. 1 **D.** 2

23. *If x + 5 = 12, what is the value of x?*
Show your working.

A. 7 **B.** 17
C. 5 **D.** 12

24. **Assertion:**

The sum of angles in any triangle is 180 degrees.

Reason:

This is a fundamental theorem in Euclidean geometry.

A. Both incorrect
B. Assertion correct, reason incorrect
C. Both correct, reason explains assertion
D. Both correct, reason doesn't explain assertion

* * * * **END** * * * *