

CLASS: 10th

TIME: 3 HRS

SUBJECT: SCIENCE

MAX. MARKS: 80

SECTION – A

Note :- Q. Nos. 1 to 18: Very Very Short Answer Type Questions of 1 mark each.

1. The radius of curvature of a spherical mirror is 20cm. What is its focal length?

- a) 12 cm
- b) 10 cm
- c) -10 cm
- d) 2 cm

2. Power of concave lens of focal length 200 cm is:

- a) 0.8 D
- b) 1.5 D
- c) 0.5 D
- d) 5 D

3. The focal length of a plane mirror is:

- a) 0
- b) infinite
- c) 25 cm
- d) – 25 cm

4. Electrical resistivity of a given metallic wire depends upon:

- a) its length
- b) its thickness
- c) its shape
- d) nature of material

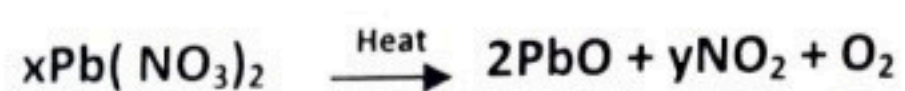
5. The device used to measure electric current is called

- a) Generator
- b) Ammeter
- c) Galvanometer
- d) Motor

6. A solution turns red litmus blue, its pH is likely to be

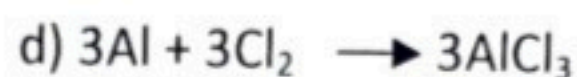
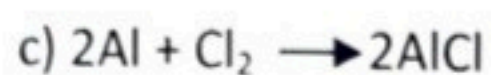
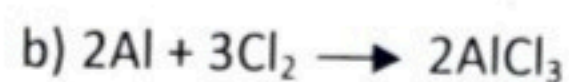
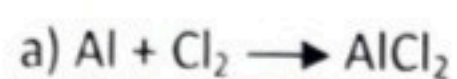
- a) 1
- b) 5
- c) 4
- d) 10

7. In order to balance the following chemical equation, the value of coefficients x and y resp. are



- a) 2, 4
- b) 2, 2
- c) 2, 3
- d) 4, 2

8. A student performs an experiment to form aluminium chloride from aluminium and chlorine. Which of the following option gives the chemical equation of the reaction.



9. Food cans are coated with tin and not with zinc because

a) Zinc is more reactive than Tin

b) Zinc is less reactive than Tin

c) Zinc is costlier than Tin

d) Zinc has higher melting point than Tin

10. Which of the following reaction is used in black and white photography.

a) Combination reaction

b) Decomposition reaction

c) Displacement reaction

d) Oxidation reaction

11. Which statement is not correct regarding the food chain.

a) Every component of food chain forms trophic level

b) Interrelation between different food chains is food web

c) All chains formed by nutritional relations are used to understand energy flow

d) Energy level increases from lower trophic level to higher trophic level.

12. The brain is responsible for

a) Thinking

b) Balancing body

c) Regulating the heart beat

d) All of the above

13. The Anther contains:

a) Sepal

b) Pistil

c) Ovules

d) Pollen grains

14. In evolutionary terms, we have more in common with:

a) a chinese school boy

b) a spider

c) a chimpanzee

d) a bacterium

15. living has always been part of India's tradition and Culture.

- a) Sustainable
- b) Sad
- c) Happy
- d) Economic

1 × 15 = 15 Marks

Note: For Q.Nos. 16 to 18: two statements (Assertion 'A' and Reason 'R') are given. Select the Correct answer to these questions from the Codes (a),(b),(c) and (d) as given below:-

Code(a): A and R are true and R is correct explanation of A

Code(b): Both A and R are true and R is not correct explanation of A

Code(c): A is true but R is false

Code(d): A is false but R is true

16. Assertion (A): Magnetic field lines don't intersect each other

Reason (R) : Magnetic field lines are imaginary lines, the tangents to which any point gives the direction of the field at that point.

17. Assertion(A): Metalloids are classified as semi-metals

Reason (R): Metalloids are intermediate in properties and exhibit properties of both metals and non- metals.

18 Assertion(A): In anaerobic respiration, one of the end product is alcohol.

Reason (R): There is an incomplete breakdown of glucose.

1 × 3 = 3 Marks

SECTION – B

Note: - Q. Nos. from 19 to 28: Very Short Answer Type Questions of 2 marks each.

19. Why planets don't twinkle?

20. Discuss four properties of ionic compounds.

21. Why acids don't show acidic behaviour in the absence of water?

22. An electric motor takes 5A from a 220V line. Determine the power of the motor and energy consumed in 2 hours?

23. Define Ohm's Law and draw the circuit diagram.

24. Give the formula of:

a) Plaster of Paris

b) Baking soda

25. What criteria do we use to decide whether something is alive?
26. Why is DNA copying an essential part of the process of reproduction?
27. How do Mendel's experiment show that traits may be dominant or recessive?
28. How does our body respond when adrenaline is secreted into blood?

$2 \times 10 = 20$ Marks

SECTION – C

Note :- Q. Nos. 29 to 37: Short Answer Type Questions of 3 marks each.

29. Write Sign Convention for spherical mirrors

OR

A concave lens has focal length of 15 cm. At which distance should the object from the lens be placed so that it forms an image at 10 cm from the lens? Also find the magnification produced by the lens.

30. Explain Myopia with its occurrence and correction

OR

Explain Hypermetropia with occurrence and correction.

31. What are electric field lines. Give their properties.

OR

State Fleming's Left Hand rule with the help of diagram.

32. How would you distinguish experimentally between an alcohol and a carboxylic acid?

OR

Distinguish between saturated and unsaturated hydrocarbons.

33. Define corrosion of metals and give its prevention methods.

OR

Define the following terms:

- a) Mineral
- b) Ore
- c) Gangue

34. Discuss in brief:

a) Displacement reaction.

b) Double Displacement reaction.

OR

Balance the following reaction:



35. What are the differences between the transport of materials in xylem and phloem?

OR

Differentiate between autotrophic and heterotrophic nutrition.

36. How does binary fission differ from multiple fission?

OR

Why is vegetative propagation practised for growing some types of plants?

37. What will happen if we kill all the organisms in one trophic level.

OR

What is ozone and how does it affect any ecosystem?

$9 \times 3 = 27$ Marks

SECTION – D

Note :- Q. Nos. 38 to 40: 3 Long Answer Type Questions of 5 marks each.

38. Answer the following questions:

a) Define power of lens and its S.I. unit. Also describe magnification produced by lens. (02)

b) What are conclusions of Oersted's experiment. (02)

c) Draw a diagram to represent uniform magnetic field. (01)

OR

Answer the following questions:

a) Explain Snell's Law. (02)

b) What is the advantage of third wire of earth connection in domestic circuit. (02)

c) State direction of magnetic field inside a bar magnet. (01)

39. What is an esterification reaction? Describe an activity to show esterification. (05)

OR

Answer the following questions:

a) What is allotropy? Give names of allotropes of carbon. (02)

b) Draw electron dot structure for ethanoic acid. (01)

c) Why covalent compounds have low melting and boiling points. (02)

40. Answer the following questions:

a) How and where does fat digest? (02)

b) Why pituitary gland is called Master gland? (02)

c) Give an example of a plant hormone that promotes growth. (01)

OR

Answer the following questions:

a) What is photosynthesis and write its reaction? (02)

b) Define Reflex arc. (02)

c) Which hormone regulates blood sugar level in humans. (01)

5 × 3 = 15 Marks