

28-P
25-C
27-B

10th Standard
First Terminal Examination - September 2022
Sub : Science

Time : 3.00 Hours

Max Marks : 80

PART A - PHYSICS

- I. Four alternatives are given for each of the following questions/incomplete statements. Choose the correct alternative and write the complete answer along with its letter of alphabet : 2 x 1 = 2**

1. Fuse wire is a wire of
A) low resistance and low melting point
B) high resistance and low melting point
C) low resistance and high melting point
D) high resistance and high melting point
2. The device used for producing current is
A) Generator
B) Galvanometer
C) Ammeter
D) Motor

- II. Answer the following questions : 3 x 1 = 3**

3. Why is an ammeter connected in series in an electric circuit?
4. State any one advantage of Alternating Current over Direct Current.
5. Define the unit of electric current.

- III. Answer the following questions : 3 x 2 = 6**

6. State Ohm's law. Write its application?

OR

Write the factors on which Resistance of a conductor depends.

7. Draw the diagram of Simple electric circuit.
8. State Flemings right hand rule.

OR

Write any two differences between electric motor and electric generator.

- IV. Answer the following questions : 3 x 3 = 9**

9. Write the nature of Magnetic field produced around current carrying solenoid, write any two methods to increase the magnetic field around it.
10. Draw the diagram to show the three Resistors connected in parallel and lable the ammeter.
11. 50Ω electric bulb in an electric circuit connected to a battery of 10 V. Calculate the amount of flow of electric current and power of the bulb?

V. Answer the following questions :

2 x 4 = 8

12. a) State Joule's heating effect. Mention any two devices which works on this law.
b) Nichrome an alloy is used in heating effect of electrical devices. Why?
13. What is potential difference. Name the commercial unit of electric current and express in Joules.

PART B - CHEMISTRY

VI. Four alternatives are given for each of the following questions/incomplete statements. Choose the correct alternative and write the complete answer along with its letter of alphabet :

2 x 1 = 2

14. Which one of the following solutions will turn blue litmus to red
A) NaOH (aq) B) H₂SO₄ (aq)
C) KCl (aq) D) NH₄OH (aq)
15. The metal that displaces copper from copper sulphate solution is
A) Mercury B) Gold
C) Silver D) Iron

VII. Answer the following questions :

1 x 1 = 1

16. $2\text{H}_{2(g)} + \text{O}_{2(g)} \rightarrow 2\text{H}_2\text{O}_{(l)}$ is an exothermic reaction. Why?

VIII. Answer the following questions :

2 x 2 = 4

17. Draw the diagram of the arrangement of apparatus used to show the electrolysis of water and label the Anode and Cathode.
18. Define i) Corrosion
 ii) Rancidity

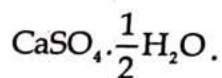
OR

$\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$ is a decomposition reaction. Why?

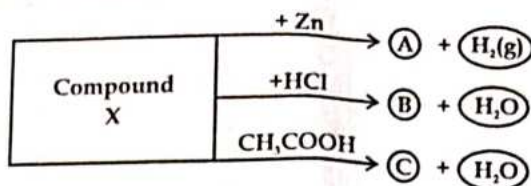
IX. Answer the following questions :

3 x 3 = 9

19. Draw the diagram of arrangement of the apparatus to show the reaction of Zinc Granules with dilute sulphuric acid and testing hydrogen gas by burning. Label the following parts.
i) Zinc Granules ii) Soap solutions
20. a) Hydrochloric acid is stronger acid than acetic acid. Explain.
b) What is the common name of the compound that has molecular formula



21. Identify the Compound X on the basis of the reactions given below. Also write the name and chemical formulae of A, B and C.



OR

Identify the acid and base which form sodium hydrogen carbonate. Write chemical equation in support of your answer. State whether the compound is acidic, basic or neutral.

X. Answer the following questions :

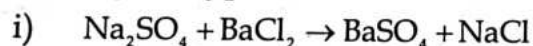
1 x 4 = 4

22. During the reaction of some metals with dilute hydrochloric acid, following observations are made. Explain these observations giving suitable reasons.
- Silver metal does not show any change.
 - The temperature of the reaction mixture rises when aluminium is added.
 - The reaction of sodium metal is found to be highly explosive.
 - Some bubbles of a gas are seen when lead is reacted with acid.

XI. Answer the following question :

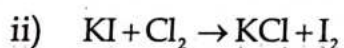
1 x 5 = 5

23. a) Identify the type of reaction



(1 + 1 + 1)

b) Balance the following chemical reactions :



(1 + 1)

PART C - BIOLOGY

XII. Four alternatives are given for each of the following questions/incomplete statements. Choose the correct alternative and write the complete answer along with its letter of alphabet :

4 x 1 = 4

24. In plants the major function of Phloem is the transportation of

- | | |
|----------------|-----------|
| A) Water | B) Food |
| C) Amino acids | D) Oxygen |

25. Which is the first enzyme to mix with food in the digestive tract.

- | | |
|------------|--------------|
| A) Pepsin | B) Cellulase |
| C) Amylase | D) Trypsin |

26. An example for positive geotropism in plants is
 A) Growth of shoot B) Growth of roots into deep soil
 C) Growth of tendrils of creepers D) Upward growth of roots
27. Diabetes mellitus is caused due to deficiency of
 A) Glucagon B) Thyroxin
 C) Insulin D) Prolactin

XIII. Answer the following questions :

4 x 1 = 4

28. Name the hormones responsible for the regulation of blood pressure?
 29. What is Reflex action?
 30. Which hormone inhabits the growth of plants?
 31. Give the meaning of Synapse?

XIV. Answer the following questions :

3 x 2 = 6

32. "Bile does not contain any enzyme but it is essential for digestion". Justify the statement.

OR

Name the excretory organs of (i) Amoeba and (ii) Earth worm

33. Write any two functions of Lymph.
 34. Draw the diagram showing the structure of human excretory system and label "Ureter".

XV. Answer the following questions :

3 x 3 = 9

35. Explain the stages of 'double circulation' of the blood in humans.

OR

Mention the events that occur during photosynthesis in plants. What are the methods used by plants to get rid of excretory products?

36. "Nervous and hormonal system together perform the functions of control and co-ordination in human beings" Justify.
 37. a) What is the role of brain in reflex action.
 b) Why is the use of Iodised salt advisable.

OR

Write the functions of the human brain.

XVI. Answer the following question :

1 x 4 = 4

38. Draw the diagram showing the structure of human heart and label the following parts :
 i) Aoerta ii) Septum
