

Roll No.....

Total No. of Questions : 18]

[Total No. of Printed Pages : 8

*XWZJDRO/N19*

*24705-Z*

*SCIENCE*

*(Physics, Chemistry & Life Science)*

Time : 3 Hours]

[Maximum Marks : 84

Section-A

(PHYSICS)

(Long Answer Type Questions)

1. State Ohm's law and describe a method to find the resistance of a coil by using a voltmeter and an ammeter. Also draw the circuit diagram.

*Or*

What is the resultant resistance when a number of resistances are connected in :

(a) Series

(b) Parallel

6

XWZJDRO/N19-24705-Z

Turn Over

*C-5-Z*

**(Short Answer Type Questions)**

4 each

2. Draw the well labelled diagram of an eye of human being.

*Or*

What are common defects of vision ? Name them.

3. Write the uses of concave and convex mirrors.

*Or*

Write the sign conventions used for reflection by mirror.

4. Draw the ray diagram and find the nature, position and relative size of image formed by a concave lens at :

- (i) infinity
- (ii) between optical centre and infinity

*Or*

An object is placed at a distance of 10 cm from a convex mirror of focal length 15 cm. Find the position and nature of the image formed.

**(Very Short Answer Type Questions)**

2 each

5. (i) Write the *two* differences between convex and concave lens.  
(ii) Draw a labelled diagram of an electric motor.  
(iii) Name *two* uses biogas.

**(Multiple Choice Questions)**

1 each

6. (i) Which of the following is not an example of a bio-mass energy source ?  
(A) Wood (B) Gobar gas  
(C) Nuclear energy (D) Coal  
(Choose the correct answer)
- (ii) Hypermetropia is corrected by :  
(A) Convex lens (B) Concave lens  
(C) Cylindrical lens (D) None of these  
(Choose the correct answer)
- (iii) At the time of short circuit the current in the circuit :  
(A) Decreases (B) Increases  
(C) Does not change (D) Vary continuously  
(Choose the correct answer)
- (iv) An electric motor converts :  
(A) Electric energy into mechanical energy  
(B) Mechanical energy into electric energy  
(C) Electric energy into magnetic energy  
(D) Magnetic energy into mechanical energy  
(Choose the correct answer)

**Section-B**

**(CHEMISTRY)**

**(Long Answer Type Questions)**

7. What is an isomerism ? How many structural isomers can you draw for pentane ?

*Or*

Describe the substitution and addition reactions as chemical properties of carbon compound.

**(Short Answer Type Questions)**

4 each

8. Write two methods for obtaining a metal from its oxide ore.

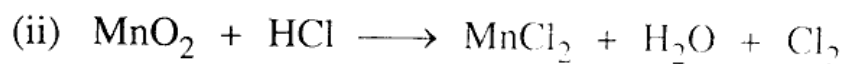
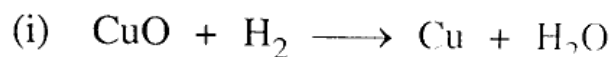
*Or*

Discuss any *four* physical properties of metals.

9. Write the steps involved in writing a chemical equation.

*Or*

Identify the substances that are oxidised and the substances that are reduced in the following reactions :



10. Write the uses of washing soda.

*Or*

How do acids and base react metals ? Write the reaction for each reaction.

**(Very Short Answer Type Questions)**

2 each

11. (i) Name any *four* elements with filled outermost shells.
- (ii) In the modern periodic table which are the metals among the first ten elements ?
- (iii) What is homologous series ?

(Multiple Choice Questions)

1 each

12. (i) Acid turn methyl orange :

(A) Green

(B) Blue

(C) Red

(D) Black

(Choose the correct answer)

(ii) Addition of oxygen to a substance in a chemical reaction is termed as :

(A) Reduction

(B) Oxidation

(C) Displacement

(D) None of these

(Choose the correct answer)

(iii) The only element among non-metal that exists in liquid state at room temperature is :

(A) Chlorine

(B) Bromine

(C) Sulphur

(D) Phosphorus

(Choose the correct answer)

(iv) Which metal is kept immersed in kerosene oil ?

(A) Sodium

(B) Silver

(C) Gold

(D) Zinc

(Choose the correct answer)

**Section-C**

**(LIFE SCIENCE)**

**(Long Answer Type Questions)**

13. What is Nutrition ? What are the differences between autotrophic and heterotrophic nutrition ?

*Or*

Describe the structure and function of Nephron. Draw the labelled diagram.

6

**(Short Answer Type Questions)**

4 each

14. How is sex of a child determined in human beings ?

*Or*

What are the different ways in which individuals with a particular trait may increase in a population ?

15. Name the Hormones secreted by Thyroid, Pancreas, Ovary and Testis.

*Or*

Describe the structure of Neuron with the help of labelled diagram.

16. What is Vegetative propagation ? Also give its advantage.

*Or*

Draw a labelled diagram of longitudinal section of flower.

**(Very Short Answer Type Questions)**

2 each

17. (i) Define Regeneration with an example.
- (ii) Explain the term water harvesting.
- (iii) Define Food chain and Food web.

**(Multiple Choice Questions)**

1 each

18. (i) The term ecosystem was introduced by :
- (A) Miller
- (B) Haldane
- (C) Tansley
- (D) Darwin (Choose the correct answer)
- (ii) Which of the following constitute a food chain ?
- (A) Grass, Wheat and Mango
- (B) Grass, Goat and Human
- (C) Goat, Cow and Elephant
- (D) Grass, Fish and Goat (Choose the correct answer)

Turn Over

(iii) Greatest problem for water conservation is to reduce the amount of :

(A) Runoff water

(B) Evaporation

(C) Precipitation

(D) Ground water

(Choose the correct answer)

(iv) River Jhelum originate from :

(A) Chashma Verinag

(B) Wuller lake

(C) Dal lake

(D) None of these

(Choose the correct answer)