

C-5-Y

Roll No.....

Total No. of Questions : **18**

[Total No. of Printed Pages : **8**

XWZJDRO/N19

24705-Y

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

Turn Over

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(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) What is tidal energy ?

(Multiple Choice Questions)

1 each

6. (i) A solar waterheater cannot be used to get hot water on :
(A) a sunny day (B) a cloudy day
(C) a hot day (D) a windy day
(Choose the correct answer)
- (ii) The device used for producing electric current is called a :
(A) Motor (B) Ammeter
(C) Generator (D) Galvanometer
(Choose the correct answer)
- (iii) The human eye forms the image of an object at its :
(A) Cornea (B) Iris
(C) Pupil (D) Retina
(Choose the correct answer)
- (iv) The electric generator is based on :
(A) Fleming's left-hand rule
(B) Fleming's right-hand rule
(C) Right-hand thumb rule
(D) None of these (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.

6

(Short Answer Type Questions)

4 each

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

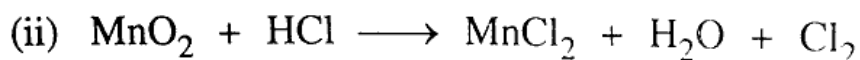
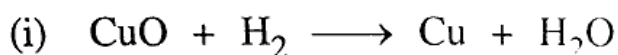
Or

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) Define allotropy. Name any *two* allotropes of carbon.

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(Multiple Choice Questions)

1 each

12. (i) The metal which exists in liquid state at room temperature is :

(A) Sodium

(B) Mercury

(C) Gallium

(D) Astatine

(Choose the correct answer)

(ii) From among non-metals the only good conductor of electricity is :

(A) Phosphorus

(B) Sulphur

(C) Graphite

(D) Boron

(Choose the correct answer)

(iii) The oil and fats on oxidization become :

(A) Corroded

(B) Acidic

(C) Rancid

(D) None of these

(Choose the correct answer)

(iv) The pH value of distilled water on pH scale is :

(A) 7

(B) 10

(C) 1

(D) 4

(Choose the correct answer)

Section-C

(LIFE SCIENCE)

(Long Answer Type Questions)

13. What is Nutrition ? What are the differences between autotropic 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) Who are Ethologists ?

(Multiple Choice Questions)

1 each

18. (i) Which of the following groups contain only biodegradable items ?
- (A) Grass, Flowers and Leather
- (B) Grass, Wood and Plastic
- (C) Fruit-peels, Cake and Lime juice
- (D) Cake, Wood and Grass (Choose the correct answer)
- (ii) In a food chain there is :
- (A) Bidirectional flow of energy
- (B) Zig-zag flow of energy
- (C) Multidirectional flow of energy
- (D) Unidirectional flow of energy

(Choose the correct answer)

(iii) Biotic components of an ecosystem are :

(A) Producers

(B) Consumers

(C) Decomposers

(D) All of these (Choose the correct answer)

(iv) Soil erosion is a phenomenon of :

(A) Addition of top soil

(B) Addition of fertilizer in the soil

(C) Removal of top soil

(D) Spraying of pesticides (Choose the correct answer)

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