

C-5-A

Roll No.....

Total No. of Questions : 18]

[Total No. of Printed Pages : 8

XBAMKD20

1305-A

SCIENCE

(Physics, Chemistry & Life Science)

Time : 3 Hours]

[Maximum Marks : 84

Section-A

(PHYSICS)

(Long Answer Type Questions)

6

1. Give the nature, position and size of the image formed by a convex lens, when object lies at '2F', 'F' and between 'F' and 'O' with requisite diagram.

Or

Give the nature, position and size of the image formed by a concave mirror, when object lies at 'C', beyond 'C' and between 'C' and 'F' with suitable diagram.

(Short Answer Type Questions)

4 each

2. Define Hypermetropia. How is it corrected ? Show diagrammatically.

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Turn Over

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Or

Draw a neat and clean diagram of human eye and labelled it.

Write the uses of convex and concave mirrors.

Or

Name the type of mirrors used in the following situations :

- (i) Head light of vehicles
- (ii) Side/rear view mirrors of vehicles
- (iii) Solar furnaces
- (iv) Dentists

4. Draw an expression for the equivalent resistances of three resistances connected in series combination.

Or

Define Ohm's Law and verify it experimentally.

(Very Short Answer Type Questions)

2 each

5. (i) What is tidal energy ?
- (ii) What is an electric fuse ?
- (iii) What is a voltmeter ?

(Multiple Choice Questions)

1 each

6. (i) The main constituent of biogas is :
- (A) Methane
 - (B) Butane
 - (C) Ethane
 - (D) Hydrogen ✓

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(ii) A concave lens is used for correcting the defect of eye known as :

- (A) Myopia ✓
- (B) Hypermetropia
- (C) Colour Blindness
- (D) Astigmatism

(iii) Magnetic effect of current was discovered by :

- (A) Henry
- (B) Faraday
- (C) Oersted
- (D) Maxwell ✓

(iv) The device used for producing electric current is called :

- (A) Generator ✓
- (B) Galvanometer
- (C) Ammeter
- (D) Motor

Section-B

(CHEMISTRY)

(Long Answer Type Questions)

6

7. Write the chemical properties of carbon compounds. Give example of each.

Or

What is Isomerism ? Draw the possible isomers for pentane. Draw the electron dot structure of CO_2 .

(Short Answer Type Questions)

4 each

8. Write the effect of change of pH value in mouth and stomach.

Or

Write the uses of washing soda.

9. How do metal react with acids and solution of other salt ?

Or

Name the methods used for prevention of corrosion. Explain Galvanisation method only.

10. How could Modern Periodic Table remove various anomalies of Mandleeve's Periodic Table ?

Or

Give the merits of modern periodic table.

(Very Short Answer Type Questions)

2 each

11. (i) Explain Rusting. How can you preventing iron from rusting ?
 (ii) Explain the term with example for Rancidity.
 (iii) What do you mean by allotropes ?

(Multiple Choice Questions)

1 each

12. (i) Which of the following reactions is a displacement reaction ?
- (A) $\text{Mg} + \text{CuSO}_4 \rightarrow \text{MgSO}_4 + \text{Cu}$
- (B) $2\text{Fe} + 3\text{Cl}_2 \rightarrow 2\text{FeCl}_3$
- (C) $2\text{H}_2\text{O} + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$
- (D) $\text{NaCl} + \text{AgNO}_3 \rightarrow \text{NaNO}_3 + \text{AgCl}$
- (ii) A solution when treated with universal indicator shows pH value '8' it is :
- (A) Strong acid ✓
- (B) Weak acid
- (C) Weak base
- (D) Neutral solution
- (iii) Which is the most malleable metal ?
- (A) Gold ✓
- (B) Lead
- (C) Iron
- (D) Copper
- (iv) The best electrical conductor is :
- (A) Gold
- (B) Silver ✓
- (C) Copper
- (D) Aluminium

Section-C

(LIFE SCIENCE)

(Long Answer Type Questions)

6

13. State and explain male reproductive system of human being with labelled diagram.

Or

Describe the process of asexual reproduction in lower plants.

(Short Answer Type Questions)

4 each

14. How can we differentiate Autotrophic nutrition from Heterotrophic nutrition ?

Or

Draw a well labelled diagram of Nephron.

15. Write the functions of the following hormones :

- (a) Thyroxine
- (b) Insulin
- (c) Adrenaline
- (d) Testosterone

Or

Explain the reflex action by means of reflex arc with diagram.

16. Why do we need to manage our resources judiciously ?

Or

Why should we conserve forest and wildlife ?

(Very Short Answer Type Questions)Food Chain
2 each

17. (i) Explain Food Web.
- (ii) Write *two* factors could lead to the rise of new species.
- (iii) What are homologous organs ?

(Multiple Choice Questions)

1 each

18. (i) Kidneys in human beings are a part of the system for :
- (A) Respiration
 - (B) Reproduction
 - (C) Excretion
 - (D) Nutrition
- (ii) The xylem in plants are responsible for :
- (A) Transport of water
 - (B) Transport of food
 - (C) Transport of oxygen
 - (D) Transport of amino acid
- (iii) In a food chain there is :
- (A) Bidirectional flow of energy
 - (B) Zig-zag flow of energy
 - (C) Multi-directional flow of energy
 - (D) Unidirectional flow of energy

(iv) Which of the following constitutes a food chain ?

- (A) Grass, wheat and mango
- (B) Grass, goat and human
- (C) Goat, cow and elephant
- (D) Grass, fish and goat