

A-5-X

Total No. of Questions : 18]

[Total No. of Printed Pages : 8

SSERS/ZJM18

17005-X

SCIENCE

(Physics, Chemistry & Life Science)

Time : 3 Hours]

[Maximum Marks : 84

Section-A

(PHYSICS)

(Long Answer Type Questions)

6

1. What is reflection of light ? Give the nature, size and position of image formed by a convex mirror.

Or

What are the types of spherical lenses ? Describe the principal focus, aperture and the optical centre of a spherical lens.

(Short Answer Type Questions)

4 each

2. Describe briefly the various defects of vision.

Or

Explain the refraction of light with the help of a Glass Prism.

3. Give a brief account of the factors on which the resistance of a conductor depends.

Or

State and explain Ohm's Law.

4. Describe the magnetic field produced by a solenoid carrying current.

Or

What is Fleming's left-hand rule for the direction of force on a current carrying conductor ?

(Very Short Answer, Type Questions)

2 each

5. The following very short answer type questions of 2 marks each, may be answered in a few words or few sentences or as may be required :

(i) State Snell's law of refraction.

(ii) What is a Wind Mill ?

(iii) What is the Power of a refrigerator, which is connected to a 220 V generator ? The current is 1.25 A.

(Multiple Choice Questions)

1 each

6. Choose the correct/most appropriate answer out of the four alternatives given against each item and write it in your answer book :

(i) Uranium is used to obtain :

(a) Tidal energy

- (b) Geothermal Energy
 - (c) Wave Energy
 - (d) Nuclear Energy
- (ii) Which of the following acts as a light sensitive screen in the Human eye ?
- (a) Vitreous Humour
 - (b) Retina
 - (c) Cornea
 - (d) Optic Nerve
- (iii) Which of the following has a higher Refractive Index ?
- (a) Ice
 - (b) Air
 - (c) Kerosene
 - (d) Water
- (iv) The Mirror usually used by a Dentist is :
- (a) Concave
 - (b) Convex
 - (c) Plane
 - (d) None of the above

Section-B

(CHEMISTRY)

(Long Answer Type Questions)

6

7. What are Un-saturated Hydrocarbons ? Describe the types of Un-saturated Hydrocarbons.

Or

Describe the Substitution and Addition Reactions as chemical properties of carbon compounds.

(Short Answer Type Questions)

4 each

8. What are the various methods used for Refining of Metals ?

Or

Discuss any *four* Physical properties of Metals.

9. Give a brief account of the chemicals obtained from common salt.

Or

Explain the reaction of any *two* acids and a base with water.

10. What do you understand by Double-Displacement Reaction ?

Or

Write short notes on :

(a) Corrosion

(b) Rancidity

(Very Short Answer Type Questions)

2 each

11. The following very short answer type questions of 2 marks each, may be answered in a few words or few sentences or as may be required :

- (i) Give *two* points of difference between soap and detergent.
- (ii) What is Rusting of Iron ?
- (iii) Define the term Atomic Size.

(Multiple Choice Questions)

1 each

12. Choose the correct/most appropriate answer out of the four alternatives given against each item and write it in your answer book :

- (i) The number of Groups in the Mendeleev's Periodic table was :
 - (a) 18
 - (b) 17
 - (c) 06
 - (d) 08
- (ii) Which of the following elements is called as a Metalloid ?
 - (a) Cobalt
 - (b) Copper
 - (c) Arsenic
 - (d) Hydrogen

(iii) Base + Acid \rightarrow ?

(a) Salt + Water

(b) Salt + H₂Gas

(c) Salt + CO₂ + H₂O

(d) Salt + CO₂Gas

(iv) Which of the following is a correct balanced chemical equation ?

(a) $6\text{CO}_2 + \text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + \text{O}_2$

(b) $6\text{CO}_2 + 6\text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$

(c) $2\text{CO}_2 + \text{H}_2\text{O} \rightarrow 2\text{C}_6\text{H}_{12}\text{O}_6 + \text{O}_2$

(d) $\text{CO}_2 + 6\text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$

Section-C

(LIFE SCIENCE)

(Long Answer Type Questions)

6

13. Describe the Human Digestive System. Draw a labelled diagram of it.

Or

Explain how the transport of water and food-materials occurs in plants ?

(Short Answer Type Questions)

4 each

14. Differentiate Phototropism from Geotropism. Give examples.

Or

Describe briefly the structure of human Brain.

15. Write short notes on :

- (a) Regeneration as Asexual Reproduction
- (b) Spore Formation.

Or

Describe the Female Reproductive System of Human beings.

16. Define 'Species'. What are the important factors leading to the rise of a new species ?

Or

Describe Monohybrid cross and discuss the salient features which emerge from such a cross.

(Very Short Answer Type Questions)

2 each

17. The following very short answer type questions of 2 marks each, may be answered in a few words or few sentences or as may be required : <https://www.jkboseonline.com>

- (i) What are the causes of ozone layer depletion ?
- (ii) What is the effect of Non-Biodegradable wastes on the environment ?
- (iii) Why is it better to 'Re-use' the things ?

(Multiple Choice Questions)

1 each

18. Choose the correct/most appropriate answer out of the four alternatives given against each item and write it in your answer book :
- (i) Which of the following Industry is based on Forest Produce ?
- (a) Lac Industry
 - (b) Steel Industry
 - (c) Petroleum Industry
 - (d) None of the above
- (ii) 'Chipko Andolan' was started to save the :
- (a) River Ganga
 - (b) River Narmada
 - (c) Forests
 - (d) Dal-Lake
- (iii) 'Pollen Grains' are produced by :
- (a) Carpel
 - (b) Stamen
 - (c) Stigma
 - (d) Petal
- (iv) Which of the following types of Reproduction is Commonly found in 'Leishmania' ?
- (a) Multiple Fission
 - (b) Binary Fission
 - (c) Budding
 - (d) Spore Formation