

A-4-Q

Roll No.....

Total No. of Questions : 24)

[Total No. of Printed Pages : 8

XRWZJO16

10104-Q

SCIENCE

(Physics, Chemistry & Life Science)

Time : 3 Hours]

[Maximum Marks : 84

Section-A

(PHYSICS)

(Long Answer Type Questions)

1. What is a Spherical Mirror ? Describe the various types of spherical mirrors.

Or

Discuss the nature, position and size of image formed by a convex lens.

6

(Short Answer Type Questions)

2. What do you mean by 'Power of Accommodation' of Human Eye ?

Or

Why the Sun appears red at sun-rise and sun-set ?

4

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Turn Over

3. Explain Electric potential and Potential difference.

Or

State and explain Ohm's Law ? How is it verified experimentally ? 4

4. Define Magnetic Field. What is the magnetic field due to current in a solenoid ?

Or

What is Electric Motor ? Give the principle of an Electric Motor. 4

(Very Short Answer Type Questions)

5. What are the applications of Fossil Fuels ? 2
6. What is Optical Centre and Focal Length of a Lens ? 2
7. Why a stick partially immersed in water appears to be bent ? 2

(Multiple Choice Questions)

8. Choose the correct answer in each of the following and write it in your answer-book :

(i) Myopia can be corrected by using a :

(a) Plane Lens

☒ (b) Concave Lens

(c) Convex Lens

(d) None of these

(ii) 'Biogas' contains about 75% of it :

~~(a) Butane~~

(b) Propane

(c) LPG

(d) Methane

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(iii) Columb is equivalent to the charge contained in nearly :

(a) 6×10^{18} Electrons

(b) 6×10^{10} Electrons

(c) 6×10^{-19} Electrons

~~(d) 1.6×10^{-19} Electrons~~

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(iv) An Electric bulb is connected to a 220 V generator. The current is 0.55A. What is the power of the bulb ?

(a) 110 W

(b) 115 W

~~(c) 121 W~~

(d) 122 W

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Section-B

(CHEMISTRY)

(Long Answer Type Questions)

9. What are Hydrocarbons ? Explain the Saturated and Unsaturated Hydrocarbons.

Or

Explain the chemical properties of carbon compounds.

6

(Short Answer Type Questions)

10. What is Chemical Equation ? What are the steps of writing a chemical equation ?

Or

Describe the oxidation and reduction reaction. Give examples.

4

11. What is Modern Periodic Law ? Discuss the main features of Modern Periodic Table.

Or

What do you understand by the 'Newlands-Law of Octaves' ? Name the *two* elements which share their properties with Na.

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12. Distinguish between Metals and Non-metals on the basis of their physical properties.

Or

What is refining of Metals ? Describe the electrolytic refining of Metals.

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(Very Short Answer Type Questions) :

13. Give one application of Plaster of Paris. Write down its chemical formula. 2
14. Define Galvanisation. 2
15. What is an Alkali ? What happens when an Alkali dissolves in water ? 2

(Multiple Choice Questions)

16. Choose the correct answer :

(i) Tooth-pastes are generally :

- (a) Acidic
- (b) Basic
- (c) Neutral
- (d) None of these

(ii) Calcium Carbonate on heating gives rise to :

- (a) Calcium Hydroxide
- (b) Calcium Oxide
- (c) Calcium Chloride
- (d) Lime

(iii) Which of the following is not an allotropy of Carbon ?

☒ (a) Hydrocarbon

☒ (b) Fullerenes

(c) Diamond

(d) Graphite

(iv) The formula of Propane is :

(a) C_2H_6

☒ (b) C_3H_8

(c) C_4H_{10}

(d) C_5H_{12}

Section-C

(LIFE SCIENCE)

(Long Answer Type Questions)

17. What is Autotrophic Nutrition ? Describe the process of Photosynthesis ?

Or

Describe the structure and function of a Nephron ? Draw a diagram also.

(Short Answer Type Questions)

18. Describe the structure of Human Brain.

Or

Explain the different movement in plants due to growth.

19. Describe the Reproductive System of a Human Female.

Or

What is Sexual Reproduction ? Describe the reproductive parts of a flowering plant.

20. How do traits get expressed ?

Or

What are Fossils ? What do they tell us about Evolution ?

(Very Short Answer Type Questions)

21. Define Vegetative Propagation. Give two examples of Plants that can propagate vegetatively.

22. What is the impact of Non-biodegradable wastes on the Environment ?

23. What is the need of Conservation of Biodiversity ?

(Multiple Choice Questions)

24. Choose the correct answer :

(i) 'Strip Farming' is used for :

- (a) Collection of Runoff
- (b) Coalmine Management
- (c) Construction of Dams
- (d) Forest Conservation

(ii) Alpine meadows can be found in :

- (a) Tehri Dam
- (b) Khejrali Village
- (c) Great Himalayan National Park
- (d) River Jehlum, J and K.

Turn Over

(iii) The green plants in an Ecosystem capture about :

- (a) 10% of Sunlight
- (b) 5% of Sunlight
- (c) 1% of Sunlight
- (d) All the Sunlight

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(iv) One of the following may be a 'Decomposer' :

- (a) Grass
- (b) Frog
- (c) Lion
- ~~(d) Bacteria~~

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