

C-4-Q

Roll No.

Total No. of Questions : 24)

(Total No. of Printed Pages : 8

SSEWZJN15

6604-Q

SCIENCE

Time : 3 Hours)

(Maximum Marks : 84

Section-A

(PHYSICS)

(Short Answer Type Questions)

1. Explain the working of a human eye with the help of diagram.

Or

Explain why the planets do not twinkle.

2. Compute the heat generated while transferring 9600 coulombs of charge in one hour through a potential difference of 50 V.

Or

Define electric power and give its S.I. unit.

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3. Explain different ways to induce current in a coil.

What is the principle of an electric motor.

(Long Answer Type Questions)

4. Define Snell's law of refraction. State the two situations under which there is no refraction.

Or

- † What is a Spherical mirror? An object 5.0 cm in length is placed at a distance of 20 cm in front of a convex mirror of radius of curvature 30 cm. Find the position of the image, its nature and size. 6

(Very Short Answer Type Questions)

5. What is magnification of a lens? 2
6. What are the advantages of using a solar cooker? 2
7. When does an electric short circuit occur? 2

(Multiple Choice Questions)

8. (a) Which of the following lenses would you prefer to use while reading small letter found in a dictionary?
(i) A convex lens of focal length 50 cm
(ii) A concave lens of focal length 50 cm
(iii) A convex lens of focal length 5 cm
(iv) A concave lens of focal length 5 cm

(b) When light rays enter the eye, most of the refraction occurs at :

- (i) crystalline lens
- (ii) iris
- (iii) outer surface of cornea
- (iv) pupil

(c) Solar water heater cannot be used to get hot water on :

- (i) a sunny day
- (ii) a cloudy day
- (iii) a hot day
- (iv) a windy day

(d) Which one of the following materials cannot be used to make a lens ?

- (i) clay
- (ii) glass
- (iii) water
- (iv) plastic

Section-B

(CHEMISTRY)

(Short Answer Type Questions)

9. Differentiate between metal and non-metal on the basis of their chemical properties. Write the equations for the reaction of :

(a) Iron with steam

(b) Calcium and potassium with water

10. What does one mean by exothermic and endothermic reactions ?

Or

Why is respiration considered as an exothermic reaction ? Explain. 4

11. What were the limitations of Newland's Law of Octaves ?

Or

Why do you think the noble gases are placed in a separate group ? 4

(Long Answer Type Questions)

12. How can ethanol and ethanoic acid be differentiated on the basis of their physical and chemical properties ?

Or

Explain the mechanism of the cleaning action of the soap. 6

(Very Short Answer Type Questions)

13. Define pH value of a solution. 2
14. Why do ionic compounds have high melting point. 2
15. Give the two important uses of washing soda and baking soda. 2

(Multiple Choice Questions)

16. (a) Calcium Phosphate is present in tooth enamel, its nature is :

- (i) Basic
- (ii) Acidic ✓
- (iii) Neutral
- (iv) Amphoteric

(b) Ethene has :

- (i) 5 covalent bond
- (ii) 6 covalent bond ✓
- (iii) 7 covalent bond
- (iv) 4 covalent bond

(c) Carbon exists in the atmosphere in the form of :

- (i) Carbon dioxide only
- (ii) Carbon dioxide and carbon monoxide in traces ✓
- (iii) Carbon monoxide
- (iv) Coal

Turn Over

(d) The carbon forms a large number of compounds because it has the property of :

- (i) Tetravalency
- (ii) Isomerism
- (iii) Catenation
- (iv) All of the above

Section-C

(LIFE SCIENCE)

(Short Answer Type Questions)

17. Write the function of the following hormones in man :

- (a) Insulin
- (b) Adrenaline ✓
- (c) Thyroxin
- (d) Testosterone

Or

Name the types of movements in plants. Add a short note on any one type.

18. What is the importance of DNA copying in reproduction ?

Or

What are the advantages of sexual reproduction over asexual reproduction ? ✓

1. Explain the Mendel's law of dominance (Monohybrid cross).

Or

What are Fossils ? What do they tell us about the process of evolution ?

(Long Answer Type Questions)

20. What is Respiration ? Explain the respiratory organs in man.

Or

Define Digestion. Describe the process of digestion in man. 6

(Very Short Answer Type Questions)

21. How can you help in reducing the Waste Disposal ? Give any two methods. <https://www.jkboseonline.com> 2

22. Why Government of India has launched Amrita Devi Bishnoi Award ? 2

23. Define Biodiversity. 2

(Multiple Choice Questions)

24. (a) An aquatic ecosystem consists of :

- (i) Biotic factors
- (ii) Biotic and abiotic factors
- (iii) Consumers only
- (iv) Producers only

(b) The fertilization takes place in :

- (i) oviduct
- (ii) uterus
- (iii) vagina
- (iv) ovary

(c) Biotic component include :

- (i) Producers only
- (ii) Consumers only
- (iii) Both producers and consumers
- (iv) Producers, Consumers and de-composers.

(d) Hydra reproduces generally by :

- (i) Binary fission
- (ii) Budding
- (iii) Regeneration
- (iv) Vegetative propagation