

A-5-Y

Total No. of Questions : 18]

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XKDARO/N19

24605-Y

SCIENCE

(Physics, Chemistry & Life Science)

Time : 3 Hours]

[Maximum Marks : 84

Section-A

(PHYSICS)

(Long Answer Type Questions)

1. Describe with the help of diagrams the nature, size and position of the images formed in case of concave mirror when the object is placed :

- (a) between pole and focus
- (b) Beyond the centre of curvature.

Or

A concave lens of focal length 15 cm form an image 10 cm from the lens. How far is the object placed from the lens ? Draw the ray diagram.

(Short Answer Type Questions)

2. Define the term power of accommodation of an human eye. What is the near point and far point of a normal human eye?

Or

Differentiate between myopia and hypermetropia.

3. State Ohm's law. Explain giving the circuit diagram how you will verify it in the laboratory.

Or

With the help of a diagram derive the formula for equivalent resistances for three resistances connected in parallel.

4. What is the principle of an electric motor? What is the role of the split ring in an electric motor?

Or

Draw magnetic field lines around a bar magnet. List the properties of magnetic lines of force.

(Very Short Answer Type Questions)

5. (i) Find the power of a concave lens of focal length 2 m.

(ii) Why do we prefer a convex mirror as a rear view mirror in vehicles ?

(iii) What are the disadvantages of fossil fuels ?

(Multiple Choice Questions)

6. (i) The human eye forms the image of an object at its :

(A) Cornea

(B) Iris

(C) Pupil

(D) Retina

(ii) The S.I. unit of electric power is :

(A) Joyle

(B) Watt

(C) Volt

(D) Ampere

(iii) An electric bulb is rated 220 V and 100 W. When it is operated on 110 V. the power consumed will be : <https://www.jkboardonline.com>

(A) 100 W

(B) 75 W

(C) 50 W

(D) 25 W

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

(A) A sunny day

(B) A cloudy day

(C) A hot day

(D) A windy day

Section-B

(CHEMISTRY)

(Long Answer Type Questions)

7. Draw the electron dot structures for :

(i) Ethanoic acid

(ii) H_2S

(iii) Propanone

(iv) F_2

Or

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

(Short Answer Type Questions)

8. What is the difference between displacement and double displacement reactions ? Write equations for these reactions.

Or

Explain the following terms with examples :

(i) Corrosion

(ii) Rancidity.

9. Name : (i) Three elements that have a single electron in their outermost shells.

(ii) Two elements that have two electrons in their valence shells –

(iii) Three elements with filled outermost shells.

Or

How could the modern periodic table remove various anomalies of Mendeleev's periodic table ?

10. What is meant by refining of metals ? Describe the electrolytic refining of copper with a neat labelled diagram.

Or

Compare the important characteristics of metals and non-metals.

(Very Short Answer Type Questions)

11. (i) What is difference between a strong acid and a weak acid ?

(ii) What is plaster of paris ? How is it obtained ?

(iii) Name two metals that are soft and can be cut with knife.

(Multiple Choice Questions)

12. (i) When iron nails are kept in copper sulphate solution for 2-3 hours and then taken out and washed. The colour of the iron nails will be : <https://www.jkboardonline.com>

- (A) Grey
- (B) Black
- (C) Brown
- (D) Red

(ii) In which of the following compounds OH is the functional group :

- (A) Butanong
- (B) Butanol
- (C) Butanoic acid
- (D) Butanal

(iii) Buckminster fullerene is an allotropic form of

- (A) Phosphorus
- (B) Sulphur
- (C) Carbon
- (D) Tin

(iv) Which of the following is used for dissolution of gold ?

- (A) Hydrochloric acid
- (B) Sulphuric acid
- (C) Nitric acid
- (D) Aqua regia

Section-C

(LIFE SCIENCE)

(Long Answer Type Questions)

13. What is Digestion ? Describe briefly the process of digestion in man

Or

Describe the structure and functions of nephrons.

(Short Answer Type Questions)

14. What is difference between reflex action and walking ?

Or

Draw the structure of neuron and explain its function.

15. How does binary fission differ from multiple fission?

Or

What is the role of the seminal vesicles and the prostate glands.

16. Explain the terms analogous and homologous organs with examples.

Or

How is the sex of the child determined in human beings ?

(Very Short Answer Type Questions)

17. (i) What is the role of decomposers in the ecosystem ?

(ii) Why is damage to the ozone layer a cause of concern ?

(iii) Why should we conserve forests ?

(Multiple Choice Questions)

18. (i) Deforestation generally decreases :

(A) Rainfall

(B) Soil erosion

(C) Drought

(D) Global warming -

(ii) Non-conventional source of energy is :

(A) Wood

(B) Coal

(C) Petroleum

(D) Biogas and solar energy

(iii) Anthers contains :

(A) Sepals

(B) Ovules

(C) Carpel

(D) Pollen grains

(iv) Asexual reproduction takes place through budding in :

(A) Amoeba

(B) Y Yeast

(C) Plasmodium

(D) Leishmania

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