

Roll number.....

Number of pages printed :7

Name.....

871(JF)

940

2024

Class 10 (Science)

Time 3 hours 15 minutes Integers: 70

Instructions: The first 15 minutes are allotted for the examinees to read the question paper.

General Instructions – (i) Each question is compulsory.

(ii) The question paper consists of two sections.

(iii) Section 'A' and Section 'B' and Section 'A' have 20 • multiple choice questions to be answered on the O.M.R sheet and Section 'B' contains descriptive questions of 50 marks.

Clause (a)

(Multiple Choice Questions)

1. **The image of an object formed by a concave mirror was found to be virtual, erect and larger than the object. Where should the position of the object be?**
 - a) Between the main focus and the center of curvature
 - b) At the center of curvature
 - c) Beyond the center of curvature 1
 - d) Between the pole of the mirror and the main focus
2. **The focal length of a convex mirror is 10 cm. The radius of curvature of the mirror will be** 1
 - a) 10 cm
 - b) 20 cm
 - c) 30 cm
 - d) 40 cms
3. **If the speed of light in vacuum is 3×10^8 m/s, what is the speed of light in glass (whose refractive index is 1.5)?** 1
 - a) 4.5×10^8 m /s from
 - b) 2.0×10^6 m /s from
 - c) 3.0×10^6 m/s
 - d) 2.0×10^8 m/s
4. **Images are formed in a healthy eye** 1
 - a) On the cornea
 - b) On Iris

- c) On the pupil
d) On the retina
5. A piece of wire of resistance R is cut into four equal parts. These pieces are then combined in background. If the equivalent resistance of the combination is R' , then R/R' is equal to R . What is the value of R' ratio? 1
- a) $1/16$
b) 4
c) $1/4$
d) 16
6. Which of the following laws is taken to find the direction of magnetic field caused by a current-carrying conductor? 1
- a) Fleming's right-hand rule
b) Fleming's left-hand rule
c) Right-hand thumb rule
d) Ohm's Law
7. If an electric bulb is written 12 V and 30 W, the current flowing through it will be 1
- a) 0.4 Ampere
b) 12 Ampere
c) 2.5 Ampere
d) 360 Ampere
8. Acetic acid is a weak acid because 1
- a) It has a high water content
b) Its ionization content is low.
c) It is an organic acid
d) It is an inorganic acid
9. The concentration of a hydrochloric acid is $10^{-2} \times N$. pH value of this solution is 1
- a) 1
b) 2
c) 3
d) 0
10. Propanol is- 1
- a) C_3H_5OH
b) C_2H_5OH
c) C_3H_6OH
d) C_3H_5OH

11. Which of the following is an unsaturated compound 1
- a) Athene
 - b) Methane
 - c) Ethylene
 - d) Ethyl alcohol
12. A metal reacts with oxygen to form a compound with a higher melting point. This compound is soluble in water. What could this element be? 1
- a) Calcium
 - b) carbon
 - c) silicon
 - d) iron
13. Blistered copper has a percentage of copper . 1
- a) 98
 - b) 2
 - c) 70
 - d) 30
14. A brown shiny element X turns black when heated in the presence of air. The name of this element is - 1
- a) Copper (Cu)
 - b) Zinc (Zn)
 - c) Sulphur (S)
 - d) None of the above
15. What is required for autotrophic nutrition? 1
- a) Carbon dioxide and water
 - b) Chlorophyll
 - c) Sunlight
 - d) All of the above
16. Which of the following pairs of vitamins is soluble in water? 1
- a) Vitamin A and B
 - b) Vitamin B and C
 - c) Vitamin C and K
 - d) Vitamin D and B
17. The brain is responsive 1
- a) To think about
 - b) For heart flutter
 - c) To balance the body
 - d) For all of the above

18. Regulates goitre disease 1
- Thyroxine
 - Adrenaline
 - Insulin
 - Oxytocin
19. According to Mendel, the gene format of a pure tall pea plant is: 1
- TT
 - Tt
 - tt
 - T
20. Which of the following is not a part of the female reproductive system in human beings? 1
- ovary
 - Vasphoid
 - womb
 - Oviduct

modelpaper.info

Section 'B' : Descriptive Questions

Sub-clause (a)

Short Answer Questions:

- How is a voltmeter controlled to measure the potential difference between two points in an electric circuit? 4
- What is nearsightedness? What are the causes of this defect? Which type of lens is used to prevent this? Explain with the help of ray diagram. 4
- The charge of the electron is coulomb. It is 1.6×10^{-19} 1000 Newtons/min. Ampere is moving with a velocity of m/s at an angle of 30° 5×10^6 to the magnetic field of metres. Calculate the magnetic force on the electron. 4

Detailed Answer Questions

- What is Ohm's law ? Draw a circuit diagram describing the experiment required to verify this. 6

or

A formula for a convex mirror or where the signs have a common meaning.

$$\frac{1}{u} + \frac{1}{v} = \frac{1}{f} \quad 6$$

Sub-clause (b)

Short Answer Questions:

- Write the balanced equation of the following reactions.
 - Sodium oxide is dissolved in water. 2+2
 - $\text{MnO}_2 + \text{HCl} \rightarrow \text{MnCl}_2 + \text{H}_2\text{O} + \text{Cl}_2$

2. Write definitions and examples of minerals and ores. 2
3. I.U.P.A.C. of the following compounds Write Name- 1+1
- CH₃-CHOH-CH₃
 - CH₃-CO-CH₃

Detailed Answer Questions

4. What do you understand by esterification? Explain with examples. Give the equation for hydrolysis of ethyl acetate. Mention the main uses of acetic acid. 6
- or
5. i. Bleaching powder is dissolved in water and heated. 2+2+2
- ii. Heat sodium bicarbonate/baking soda.
- iii. On the basis of electrochemical category, explain why copper does not dissolve in dilute sulphuric acid and release hydrogen gas?

Sub-clause (c):

Short Answer Questions:

1. Describe the functions of digestive enzymes found in human beings. 4
2. Define endocrine glands or tubeless glands. Name any two endocrine glands and the hormones secreted from them. 4
3. What is a gene? Write a short note. 4

Detailed Answer Questions

4. Draw a labelled diagram of the male reproductive system of human beings.
- or
- How many types of transpiration take place in plants? Illustrate the mechanism of stomata transpiration. 6