

Class 10
Model Paper 2021-22
Subject Science(Only Question Paper)

Time:3h 15 min

MM:70

Note: First 15 minutes are allotted for the candidates to read the question paper

Instructions:

1. The question paper is divided into three sections A, B, C respectively.
2. First question of all sections is objective in which 4 option are given. Choose the correct option and write in answer book
3. All question of each section to be done together. Each section to be started from new page.
4. All questions are compulsory.
5. Marks allotted to each questions are given in the margin.
6. Illustrate your answer with labelled diagram and chemical equation whenever necessary.

SECTION A

- Q1(a) Virtual and enlarged image greater than object can be formed - 1
- | | |
|----------------------|----------------------|
| 1. By convex mirror | 2. By concave mirror |
| 3. By simple mirrior | 4. Concave lense |
- (b) S.I unit of resistance is- 1
- | | |
|---------------------------|------------|
| 1. Ohm meter ² | 2. Coulomb |
| 3. Volt meter | 4. Ohm |
- (c) Device of generating electric current is called- 1
- | | |
|--------------|-----------------|
| 1. Generator | 2. Galvanometer |
| 3. Ameter | 4. motor |
- (d) The change in focal length of an eye is caused by the action of the- 1
- | | |
|---------------------|-----------|
| 1. Pupil | 2. Retina |
| 3. Cilliary Muscles | 4. Iris |

2(a) Which type of mirror is preferred as rear view mirror in vehicles and why? 2

(b) A Concave lense has focal length of 15 cm. At what distance should the object from the lense be place so that it forms an image at 10 cm from the lense? 2

(c)What is presbyopia? How it is prevented? 2

3(a) Write the laws of reflection of light? Determined where and how the image of an object is formed when an object is placed at the distance of (i) 5 cm and (ii)15 cm infront of concave mirror having 20 cm radius of curvature. 2+1+1=4

or

What is lense? Write the type of lense on the basis of properties of light. Draw the ray diagram of the image formed if the objects is placed between first focus and optical centre of convex lense. 2+1+1=4

(b) Write the factors in which the resistance of a conductor depends? A wire of given material having length l and area of cross section A has a resistance of 4Ω . What would be the resistance of another wire of same material having length $l/2$ and area of cross section $2A$. 1+3=4

Or

Write the definition and unit of electric potential? If 10Ω , 20Ω and 30Ω resistors are added in (i) parallel (ii) Series. Calculate the equivalent resistance. 2+1+1=4

4.Explain the principle and working of an electric motor by drawing a labelled diagram. 1+2+4=7

Or

What is solenoid? How does it behave like a magnet? How can you determine the north and south pole of a current carrying solenoid with the help of a bar magnet. 2+3+2=7

SECTION B

5 (a) $\text{Zn} + \text{CuSO}_4 \longrightarrow \text{ZnSO}_4 + \text{Cu}$ is which type of chemical reaction? 1

1. Combination
2. Displacement reaction
3. Double displacement reaction
4. Decomposition reaction

(b) In following given substances which is used to remove the hardness of water 1

1. Baking Soda
2. Washing Soda
3. Bleaching Powder
4. Plaster of paris

(c) In following given compounds which has OH as functional group 1

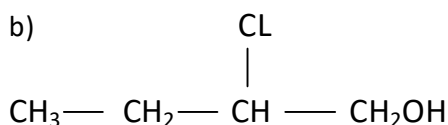
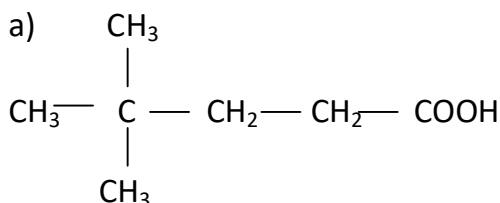
1. Butanone
2. Butanol
3. Butanoic acid
4. Butanal

6 (a) What is redox reaction? Explain chemical reaction with example. 1+1=2

(b) Write the uses and method of formation of Baking Soda ? 1+1=2

(c) What is Modern periodic table? How does atomic radius vary in period on going from left to right in the periodic table? 1+1=2

7(a) Write the I.U.P.A.C names of following- 1+1=2



(b) What is corrosion? Write the two methods of prevention of corrosion of metals. 1+1=2

8 (a) Write short notes on following 2+3+2=7

1. Substitution reaction in organic compound
2. Cleansing action of soap.
3. Homologous series.

OR

Write Chemical equation of following

1+1+1+1+1+1+1=7

1. Ethanol reacts with sodium.
2. Heating of ethyl alcohol with conc. sulphuric acid at 443K
3. Burning of Methane in presence of oxygen.
4. Reaction of ethanoic acid with ethanol.
5. Ethanoic acid reacts with sodium carbonate.
6. Reaction of ethanoic acid with sodium hydrogen carbonate.
7. Oxidation of ethyl alcohol in presence of alkaline KMnO_4

Section C

9(a) Which of the following is not a part of female genital system in human? 1

- | | |
|-------------------|------------|
| 1. Ovary | 2. Uterus |
| 3. Spermatic duct | 4. Oviduct |

(b) The source of fossil energy is- 1

- | | |
|----------------|----------------------|
| 1. Wind energy | 2. Solar energy |
| 3. Coal | 4. Hydro electricity |

(c) Wind mills are used in which work? 1

- | | |
|--------------------|------------------|
| 1. Mechanical work | 2. Chemical Work |
| 3. In both | 4. None of these |

(d) Those materials which are degraded by biological processes are called- 1

- | | |
|----------------------|-----------------------|
| 1. Biodegradable | 2. Non bio degradable |
| 3. Bio Fortification | 4. None of these |

10(a) Which condition are necessary for autonomous nutrition and what are its sub products. 1+1=2

(b) Draw neat and clean labelled diagram of ovule of flower. 2

(c) How do biodegradable materials effect the environment? 2

11(a) What is vegetative reproduction? Explain it with example. 4

Or

Draw clean labelled diagram of female reproductive system and explain it in short. 2+2=4

(b) What are sex-chromosome? Describe sex determination in human. 2+2=4

Or

What is fossil? What do they show about evolution process. 2+2=4

12- Describe digestion in stomach and small intestine by drawing labelled diagram of human digestive system. 3+2+2=7

Or

What do you understand by transport in plants? Describe transportation of water, food and other minerals in plants. 3+2+2=7
