

Tenth Class General Science Paper-1 Model Paper

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Physical Science-Paper-I

(English Version)

Time: 2 Hrs. 45 Min.

Max. Marks: 40

Instructions:

- Read the question paper thoroughly and understand it without writing anything. An additional time of 15 minutes has been allotted for this.
- This questions paper consists sections-I, II and III
- Answer the questions given under part A in the answer book provided for you
- Section-III contains internal choice for each question. Choose accordingly.

Part - A

SECTION-I

7 × 1 = 7M

i) Answer all the questions in one or two sentences.

ii) Answer must be confined to 1-2 sentences.

- The focal length of a concave mirror is 15cm. if it is broken into two pieces, what would happen to its focal length?
- What is the main limitation of Bohr's model of atom?
- Write the chemical equation for the reactions taking place when baking soda is added to food item and heated.
- There are three people in a house aged 60y, 35y and 8years. Whose least distance of distinct vision will be less? Why?
- How did Mendeleef corrected the atomic weight of beryllium as 9?
- What is the use of fusewire in house hold electrical circuits?
- Write any two daily life uses of Ethanol.

SECTION-II

6 × 2 = 12M

i) Answer all questions

iii) Answer must be confined to two to four sentences

- Draw a ray diagram showing the position of object and position of image such that the magnification of image produced by a concave mirror is -0.5 .
- What would happen if concave lens is used in a microscope?
- Write the list of apparatus and precautions to be observed in the experiment to show that the magnetic lines of force are closed curves.
- What is the main difference between Blast furnace and Reverbaratory furnace?
- Explain the principle in your own words which supports the statement that an electron enters into 4s orbital after filling up of 3p orbital.
- Write any two uses of Nano tubes.

SECTION-III

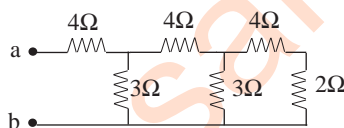
4 × 4 = 16M

i) Answer all the questions.

iii) Answer must be confined to 8 -10 sentences

iv) Each question has an internal choice, so choose only one from them.

- a) Find the resultant Resistance between 'a' and 'b' from the following figure.



(OR)

b) Explain why white light disperses into different colours, when it is passed through a prism.

- a) Write the list of apparatus material, procedure of experiment and your observations in the experiment to know the reaction of metal oxides with acids.

(OR)

b) Write the experimental procedure to find the focal length of given convex lens in u-v method.

- a) The observations of an experiment to find the focal length of a mirror are given below. (Measurements are given by observing sign convention)

S.No.	1	2	3	4	5
Object distance(μ)	-30cm	-40cm	-60cm	-20cm	-10cm
Image distance(ν)	-60cm	-40cm	-30cm	Infinite	+20cm

- What is the mirror used in this experiment? How can you say?
- What is the focal length of the mirror? How can you say without doing any calculations?
- In which observation the object is kept at principal focus?
- What is the magnification of image when the object is kept at 30cm distance in front of the mirror?

(OR)

b) Observe the following table.

Element	Electronic configuration
A	$1s^2 2s^2 2p^6$
B	$1s^2 2s^2 2p^6 3s^2 3p^2$
C	$1s^2 2s^2 2p^6 3s^2 3p^6 4s^1$
D	$1s^2 2s^2$
E	$1s^2 2s^2 2p^6 3s^2 3p^5$

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- i) Which is the alkaline earth metal in the above elements? What is its original name?
 ii) Write the four quantum numbers for the last electron of the element C.
 iii) When C and E combined, which will form as cation and which will form as anions?
 iv) Which is the inert gas in the above elements? What is its original name?
17. a) Draw the diagram showing the formation of nitrogen molecule by valence bond theory.
 (OR)
 b) The far point for a person is 100cm. draw the diagrams showing his vision defect and its correction.

Part-B

10 × ½ = 5M

1. The quantum number useful to know the position of electron in degenerate orbital is:
 1) N 2) l 3) Ml 4) Ms
2. $2\text{Na} + 2\text{H}_2\text{O} \rightarrow 2\text{NaOH} + \text{H}_2$. As per this equation the mass of H_2 gas liberated when 184gm. of Na is used is (Na = 23U, H = 1U, O=16U):
 1) 6gm 2) 8gm 3) 10gm 4) 4gm
3. When you stung by a honey bee, the pain and irritations will be caused by _____ acid.
 1) Methanoic acid 2) Carboxylic acid
 3) Sulphuric acid 4) Acetic acid
4. When a ray incidents on a convex lens it does not deviate after refraction in the following context.
 1) When the incident ray is parallel to principal axis
 2) When the incident ray is passing through focus
 3) When the ray coming from infinite distance and incidents on the lens making some angle to principal axis
 4) When the incident ray passes through centre of curvature
5. The focal length and type of lens to be used by a person whose near point is at 50cm.
 1) 50cm, Concave lens 2) 50cm, Convex lens
 3) 25cm, Concave lens 4) 100cm, Convex lens
6. The correct combination of quantum numbers of an electron is:
 1) $n = 2, l = 2, m_l = -1, m_s = +\frac{1}{2}$ 2) $n = 1, l = 2, m_l = 0, m_s = -\frac{1}{2}$
 3) $n = 2, l = 1, m_l = +1, m_s = -\frac{1}{2}$ 4) $n = 3, l = 4, m_l = -2, m_s = +\frac{1}{2}$
7. The resistance of a bulb which is rated as 60W, 120V is:
 1) 240Ω 2) 60Ω 3) 120Ω 4) 7200Ω
8. The magnetic flux (ϕ) acting one plane of area kept in a magnetic field of strength \vec{B} , making angle of 45° with the field is:
 1) BA 2) $\frac{BA}{\sqrt{2}}$ 3) $BA\sqrt{2}$ 4) $\frac{\sqrt{2}}{BA}$
9. The dicyanoargentate ions formed while electrons Ag form Ag_2S will be treated with _____ to precipitate Ag.
 1) Zinc dust 2) Aluminium dust 3) Cyanide 4) Silver nitrate
10. The esters in which glycerol and fatty acids are present are called:
 1) Alcohol 2) Ketones 3) Oils 4) Fats

KEY

- 1) 3; 2) 2; 3) 1; 4) 4; 5) 2; 6) 3; 7) 1; 8) 2; 9) 1; 10) 4.