

10th Class

Guidelines for the preparation of PHYSICAL SCIENCE Question Papers for 9th and 10th Classes

- ❖ In Physical science 40 marks are allotted for Summative Assessment Question paper.
- ❖ In Summative Assessment Question paper there will be Two parts, i.e. Part-A; and Part-B.
- ❖ Part-A and Part-B contains different types of questions as shown below:

| | Types of Questions | No. of Questions | Questions to be answered | Allotted Marks for each Questions | Total Marks | Allotted Time |
|---------------|-----------------------------------|------------------|--------------------------|-----------------------------------|-----------------|---|
| Part-A | Very Short Answer Question [VSAQ] | 03 | 03 | 02 | 06 | ONE HOUR FIFTEEN MINUTES 1 hr. 15 Min. |
| | Short Answer Question [SAQ] | 03 | 03 | 04 | 12 | |
| | Essay type Questions [Essay] | 03 | 02 | 06 | 12 | |
| Part-B | Multiple Choice Questions [MCQ] | 10 | 10 | 01 | 10 | 15 Minutes |
| Total | | 9+10 MCQ | 8+10 MCQ | - | 40 Marks | 1 Hr 30 Mins |

Important Note

- ❖ Prepare question paper for 40 marks.
- ❖ The total marks allotted for Part-A is **30**.
- ❖ The allotted time for Part-A is **ONE HOUR FIFTEEN MINUTES**
- ❖ The total marks allotted for Part-B is **10**.
- ❖ The allotted time for Part-B is **FIFTEEN MINUTES**
- ❖ Question paper should be prepared based on the **Academic Standards**.

❖ The Academic Standards weightage is shown in the following table:

| AS No. | Academic Standards. | Percent age | Marks | VSAQ (2M) | SAQ (4M) | Essay (6M) | MCQ (1M) | TOTAL Marks |
|--------------|--|-------------|-------------------|---------------|----------------|-----------------------------|-----------------|-------------------|
| AS-1 | Conceptual Understanding | 40% | 18 | | | | | 18 |
| AS-2 | Asking questions and making hypothesis | 05% | 02 | | | | | 02 |
| AS-3 | Experimentation and field investigation | 18% | 09 | | | | | 09 |
| AS-4 | Information skills and Projects | 8% | 04 | | | | | 04 |
| AS-5 | Communication through drawing, model making | 15% | 07 | | | | | 07 |
| AS-6 | Appreciation, Concern to bio-diversity, Application to daily life. | 14% | 06 | | | | | 06 |
| TOTAL | | 100% | 40 M (+6M choice) | 3 Q (6 marks) | 3 Q (12 marks) | 3 Q (12 marks) (+6M choice) | 10 Q (10 marks) | 40 M (+6M choice) |

- ❖ The weightage for each academic standard should not be changed.
- ❖ Question paper should be prepared as per the marks allotted to each academic standard. There shall be NO deviation in this regard.
For Example in the entire question paper for **Academic Standard-I** i.e. Conceptual Understanding 18 marks are allotted for all types of questions. While preparing questions there shall be **NO deviation** in the allotted marks.

PART- A:

- ❖ The **Part-A** question Paper contains **THREE** sections. The **First section** contains **3 very short answer type questions**, answer all the questions. Each question carries **2 marks** and the total **mark allotted to this section is 6**. Answer for these questions should be limited to **3-4 sentences**.
- ❖ The **Second section** contains **3 short answer type questions**, answer all the questions. Each question carries **4 marks** and the total marks allotted to this section are **12**. Answer for these questions should be limited to **5-6 sentences**.
- ❖ The **Third section** contains **Three Essay type questions**. **Answer any two questions**, each question carries **6 marks** and the total marks allotted to this section are **12**. Answer for these questions should be limited to **8-10 sentences**.

PART- B:

- ❖ The **Part-B** Paper contains **TEN Multiple Choice Questions**, each question carries **1 mark** and the total marks allotted to this part are 10.
Marks will not be awarded for OVERWRITING, CORRECTED and ERASED answers.
- ❖ Under Part-B the MCQ must be given with different patterns such as, Identifying the Correct Sentence, Incorrect Sentence, Incorrect Pair, Correct Pair, Odd-one, Match the Following, Arranging in sequential order, Flow-Charts, Missing label etc.,
- ❖ In MCQ questions options such as “All of the above”, “None of the above” and “Both A and B” should not be given.

General Instructions:

- ❖ Care should be taken while preparing question paper in such a way that questions must be given from **ALL allotted Units / Lessons / Chapters, but there is NO need to give unit/lesson-wise weightage in the question paper.**
- ❖ Questions given in the question paper should be thought provoking, open ended, analytical. **Rote memory questions should be avoided in the question paper. Questions should test the understanding level of the student.**
- ❖ All questions must not be ambiguous and they should be clear with objectivity.
- ❖ Sub-questions should not be given in the question paper **except information skill (AS-IV) Questions.**
- ❖ The length of the answer must be kept in mind while preparing different types of questions.
- ❖ While preparing question paper avoid “Improve your learning” questions from the text book as it is, Can take those questions by changing their nature of questioning.
- ❖ The entire question paper should be prepared in such a way that 50% questions easy, 30% questions are average and the remaining 20% questions are of higher order thinking.

Physical Science – X E/M
Blue Print for this Model Paper

| Academic standard | Weight age | Marks | VSAQ 2 Marks | SAQ 4 Marks | Essay Type 6 Marks | MCQ 1 Mark | Total Marks |
|--|------------|----------------------|-----------------|------------------|--------------------------|------------------|----------------------|
| AS1 -Conceptual Understanding | 40% | 18 | - | 1(4M) | 1(6M) | 8 (1M) | 18 |
| AS2 -Asking questions and making hypothesis | 05% | 02 | 1(2M) | - | - | - | 02 |
| AS3 -Experimentation and field investigation | 18% | 09 | 1(2M) | - | 1(6M) | 1(1M) | 09 |
| AS4 -Information skills and Projects | 8% | 04 | - | 1(4M) | - | - | 04 |
| AS5 -Communication through drawing, model making | 15% | 07 | - | - | 1(6M) | 1(1M) | 07 |
| AS6 -Appreciation, Concern to bio-diversity, Application to daily life. | 14% | 06 | 1(2M) | 1(4M) | - | - | 06 |
| Total | 100% | 40 M (+6M choice) | 3Q (6 Marks) | 3Q (12 Marks) | 3Q (12+6M choice) | 10Q (10Marks) | 40 M (+6M choice) |

SSC Model paper –March/April - 2023

General Science

Part – I - (Physical Science)

English Version

Class: X

Part-A & B

Max.Marks:40

Time: 1.30 hrs.

PART-A (30 Marks)

Instructions:

- i. Read the question paper and understand every question thoroughly and write answers in given 1.30 hrs. **time.**
- ii. **3 very short answer** questions are there in **section-I**. Each question carries **2 marks. Answer all the questions.** Write answer to each question in **3 to 4 sentences.**
- iii. **3 short answer** questions are there in **section-II**. Each question carries **4 marks. Answer all the questions.** Write answer to each question in **5 to 6 sentences.**
- iv. **3 essay type answer** questions are there in **section-III**. Each question carries **6 marks.** Answer any two questions. Write answer to each question in **8 to 10 sentences.**

Section-I(3X2=6 Marks)

Instructions

- i. **3 very short answer** questions are there in **section-I**.
 - ii. Each question carries **2 marks. Answer all the questions.**
 - iii. Write answer to each question in **3 to 4 sentences.**
1. Write any two uses of each convex and concave mirrors. (AS6)
 2. What happens if rusting of metals does not prevent? (AS2)
 3. List out the material required to verify Ohm's Law. (AS3)

Section-II (3X4=12 Marks)

Instructions:

- i. **3 short answer** questions are there in **section-II**.
- ii. **Answer all the questions**. Each question carries **4 marks**.
- iii. Write answer to each question in **5 to 6 sentences**.

4. Answer the following question by using the above data (AS4)

| 2 nd period elements | <i>Li</i> | <i>Be</i> | <i>B</i> | <i>C</i> | <i>N</i> | <i>O</i> | <i>F</i> |
|---------------------------------|-----------|-----------|----------|----------|----------|----------|----------|
| Atomic number | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Atomic radius (in pm) | 152 | 111 | 88 | 72 | 74 | 66 | 64 |
| Electro negativity (in ev). | 1.0 | 1.47 | 2.0 | 2.5 | 3.0 | 3.5 | 4.0 |

- i. How does the capacity of loosing electrons changes in the 2nd period from left to right.
 - ii. How does atomic size changes in the 2nd period?
 - iii. Mention the valance shell of the elements from *Li* to *F*.
 - iv. Mention the position of the element 'N' in the periodic table.
5. Mention the differences between Alkanes and Alkenes. (AS1)
6. A Doctor suggested to use +2D power lens to correct a person's eye defect.

Then find the focal length of the lens and mention type of the lens suggested
(AS6)

Section-III(2X6=12 Marks)

Instructions:

- i. **3 Essay type** questions are there in this **section**.
 - ii. Answer any two questions. Each question carries **6 marks**.
 - iii. Write answer to each question in **8 to 10 sentences**.
7. Mention the products, write balanced chemical equation when 112 g. of propane (C_3H_8) is combusted. Calculate the mass of the carbon-di-oxide evolved in the reaction. (Atomic mass of carbon is 12U, Atomic mass of Oxygen is 16U Atomic mass of Hydrogen is 1U). (AS1)

8. Draw the shape of the all orbital which represents the quantum numbers $n=3, l=2$. (AS5)

9. List out the materials required in the experiment of hydrogen gas is evolved when metals react with acids/ bases. Mention the precautions to be taken and experimental procedure. (AS3)

SSC Model paper –March/April - 2023

General Science

(Physical Science)

English Version

Class: X

Part-A & B

Max.Marks:40

Time: 1.30 hrs.

PART- B (10 Marks) (15 Minutes)

Instructions

10 x 1 = 10

- Answer all the questions
- Each question carries 1 mark
- In this section there are 4 options (A/B/C/D) to each question. Choose the appropriate answer and write the answer in the brackets given against the question .Part –B must be attached to the answer booklet of part-A

- 1) Formula is used to find the magnification of the lens is ()

i) $m = \frac{-v}{u}$

ii) $m = \frac{v}{u}$

iii) $m = \frac{h_i}{h_o}$

iv) $m = \frac{h_o}{h_i}$

A) i, ii

B) ii, iii

C) iii, iv

D) i, iii

- 2) Match the following ()

Part - A

Part- B

i. Exothermic reaction

()

a) $\text{H}_2\text{O} \longrightarrow \text{H}_2 + \text{O}_2$

ii. Endothermic reaction

()

b) $2\text{AgBr} \xrightarrow{\text{Sunlight}} 2\text{Ag} + \text{Br}_2$

iii. Photo chemical reaction

()

c) $\text{C} + \text{O}_2 \longrightarrow \text{CO}_2$

iv. Electrolysis reactions

()

d) $\text{CaCO}_3 \xrightarrow{\Delta} \text{CaO} + \text{CO}_2$

A) i-c,ii-b,iii-d,iv-a

B) i-c,ii-a,iii-b,iv-d

C) i-c,ii-a,iii-d,iv-b

D) i-c,ii-d,iii-b,iv-a

- 3) Low reactive Metal. ()

A. Al

B. Na

C. Au

D. K

- 4) $\text{P C}_3\text{H}_8 + \text{Q O}_2 \longrightarrow \text{R CO}_2 + \text{S H}_2\text{O}$ is a balanced chemical equation, Then the values of P,Q,R and S are respectively ()

A) 2,5,3 and 8

B) 2,10,6 and 8

C) 2,5,6 and 8

D) 2,10,3 and 4

- 5) A solution changes red litmus paper into blue , then the P^{H} value of the solution is ()

A) 1

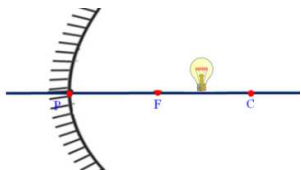
B) 7

C) 12

D) 5

6) In the experiment of finding refractive index of a prism if the incident angle is equal to emerging angle then ()

- A) $i_1 > i_2$ B) $i_1 < i_2$
 C) $i_1 = r_2$ D) $i_1 = i_2$

7)  Position of the image will be formed for this situation is given in the figure ()

- A) Beyond "C" B) At "F"
 C) Between "P" and "C" D) Between "P" and "F"

8) If water is removed after heating copper sulphate crystals, then its colour is ()

- A) Blue B) White
 C) Red D) Green

9) One of the following one is used to get relief from indigestion ()

- A) NaCl B) MgCl_2
 C) $\text{Mg}(\text{OH})_2$ D) NaOH

10) To correct hypermetropia eye defect we use.

- A) Concave lens B) Convex lens ()
 C) Concavo convex lens D) Convexo concave lens.