BOARD OF SECONDARY EDUCATION (TELANGANA)

SUMMATIVE ASSESSMENT – II

TENTH CLASS GENERAL SCIENCE

PHYSICAL SCIENCE PREVIOUS PAPER – 2017

PAPER – I (ENLISH VERSION)

Time: 2 hrs. 45 mins. **PART A & B** **Marks: 40**

Instructions:

i) The question paper comprises of four Sections I, II, III and IV.

ii) All the questions are compulsory.

iii) There is no over-all choice. However there is internal choice to the questions under Section – I.

iv) In the time duration of 2 hrs. 45 minutes, 15 minutes of time is exclusively allotted to read and understand the question paper.

Time: 2 hrs. **PART – A** **Marks: 35**

SECTION – I

Note: i) Answer ALL the questions.

ii) Each question carries ONE mark.

iii) Write the answers in 1 – 2 sentences. **7 × 1 = 7**

1. Predict and write the reason, why the value of the distance of the object (u) is always negative in the mirror equation.
2. Write the equation for the chemical decomposition reaction of silver chloride in the presence of sunlight.
3. Write the moleculer formulae of common salt and banking soda which are widely used at home.
4. Write the list of materials required for the experiment to find the focal length of a convex lens.
5. Write the symbol of the outermost shell of magnesium (Z = 12) atom. How many electrons are peresent in the outermost shell of magnesium?
6. Which property of concave mirror is used in making the solar cooker?
7. Write two uses of nano tubes.

SECTION – II

Note: i) Answer ALL the questions.

ii) Each question carries TWO marks.

iii) Write the answer in 4 – 5 sentences. **6 × 2 = 12**

8. The Focal length of a huge concave mirror is 120 cm. A man is standing in front of it at distance of 40 cm. What are the characteristics of his image in that mirror?
9. Balance the following chemical equations.

   i) $Na + H_2O \rightarrow NaOH + H_2$

   ii) $K_2CO_3 + HCl \rightarrow KCl + H_2O + CO_2$

10. Observe the information provided in the table and answer the questions given below it.

Element	Na	C	Ca	P	Ti	Ni
Atomic number	11	6	20	15	22	28

i) What are the s - block elements in the table?

ii) What are the 'p' block and 'd' block elements in the table?

11. Write the 'Octet Rule'. How does Mg (12) get stability while reacting with chlorine as per this rule?

12. Which energy we get from an electric motor? Write two daily life applications of the electric motor.

13. What are alkenes? Write the geneal formula of alkenes. Give an example for alkenes.

SECTION – III

Note: i) Answer ALL the questions.

ii) Each question carries FOUR marks.

iii) There is Internal Choice for each qeustion, only one option from each question is to be attempted.

iv) Write the answer in 8 – 10 sentences. **4 × 4 = 16**

14. Draw the ray diagrams to find the images when an object is placed in front of the lens (i) at a distance of 8 cm and (ii) at a distance of 10 cm on the principal axis of a convex lens whose focal length is 4 cm. Write the characteristics of images in both the cases.

(OR)

An eye specialist suggested a +2D lens to the person with defect in vision. Which kind of defect in vision does he have? Draw the diagrams to show the defect of vision and its correction with a suitable lens.

15. What is the relationship between length of a conductor and its resistance? Write the experimental procedure to verify that relationship.

(OR)

Write the experimental procedure and observations of the experiment that is to be performed to observe the magnetic field formed due to solenoid.

16. Write the physical methods used for the concentration of the ore. Explain the method used for concentration of the sulphide ore.

(OR)

How are the elements arranged into groups and periods in the Modern Periodic Table? Elements in a group possess similar properties, but elements in a period do not show similarities in their properties. Why?

17. Observe the following table and answer the questions given below. The table contains the aqueous solutions of different substance with the same concentrations and their respective pH values.

Sample (solution) (Acid/Base)	A	B	C	D	E	F	G	H
pH value	8.1	1.1	5.5	13.6	3.5	9.5	7	10

i) Which one of the above acid solutions is the weakest acid? Give a reason.

ii) Which one of the above solutions is the strongest base? Give a reason.

iii) Which of the above two produce maximum heat when they react? What does that heat energy called?

iv) Which one of the above solutions has the pH equal to that of the distilled water? What is the name given to solutions of that pH value?

(OR)

Observe the information provided in the table about quantum numbers. Then answer the questions given below it.

n	***l***	**m_l**
1	0	0
2	0	0
	1	–1, 0, +1
3	0	0
	1	–1, 0, +1
	2	–2, –1, 0, +1, +2

i) Write the '*l*' value and symbol of the spherical shaped sub-shell

ii) How many values that 'm_l' takes for $l = 2$? What are they?

iii) Write the symbols of the orbitals for $l = 1$ sub-shell.

iv) What is the shape of the sub-shell for $l = 2$? What is the maximum number of electrons that can occupy this sub-shell?

Time: 30 minutes **PART – B** **Marks: 5**

SECTION – IV

INSTRUCTIONS:

i) Answer ALL the questions.

ii) Each question has FOUR choices. Choose the correct answer for each question and write the relevant alphabet (A, B, C, D) against the question number in your booklet.

iii) Each question carries $\frac{1}{2}$ mark.

★ **Write the 'CAPITAL LETTER' showing the correct answer for the following questions in the brackets provided against each question.** **$10 \times \frac{1}{2} = 5$**

1. The reaction that takes place when quicklime is added to water is ..... ( )

A) displacement reaction B) gas liberating reaction

C) heat liberating reaction D) combustion reaction

2. The magnificatioin of an object placed at a distance of 6 cm in front of aconcave mirror is –3. It means ..... ( )

A) The image is formed at a distance of 2 cm in front of the mirror.

B) The image is formed at a distance of 2 cm in the mirror.

C) The image is fromed at a distnace of 18 cm in front of the mirror.

D) The image is formed at a distance of 18 cm in the mirror.

3. A solution turned pink when a drop of phenolphthalein was added to it. Then the probable pH of that solution is ( )

A) 5 B) 6 C) 7 D) 10

4. Dentist uses ..... to observe teeth. ( )

A) concave mirror B) concave lens

C) convex mirror D) plane mirror

5. Blue colour of the sky is due to ..... molecules present in the atmosphere. ( )

A) water vapour and krypton

B) carbon dioxide and carbon monoxide

C) nitrogen and oxygen

D) krypton and carbon monoxide

6. The maximum number of electrons that can occupy a main shell (n) are ( )

A) 2n B) $2n^2$ C) n^2 D) n

7. AH_2 is formed when element 'A' reacts with hydrogen. Then the number of electrons in valence shell of 'A' are generally ( )

A) 2 B) 3 C) 5 D) 8

8. Potential difference is measured with ..... ( )

A) Ammeter B) Galvanometer C) Battery D) Voltmeter

9. The ore of calcium metal among the following is ( )

A) Bauxite B) Lime stone

C) Rock salt D) Haematite

10. The carboxylic acid used to preserve pickles is ( )

A) Methanoic acid B) Propanoic acid

C) Ethanoic acid D) Butanoic acid