# Model Paper-2 SSC PUBLIC EXAMINATIONS-2020

PHYSICAL SCIENCE – PAPER-1

(English medium)

### ( Max. Marks: 50)

Time: 2.45 Hrs.

Instructions:

**1**. There are four sections and **33** questions in the paper.

2. Answers should be written in a given answer booklet.

3. There is internal choice in Section- IV

4. Write all the questions visible& legibly.

5. 15 min are given for reading the question paper and 2.30 hours given for answering questions

### Section-I

### Note:- 1. Answer all the questions

2. Each question carries 1/2 mark

1.What happens to absolute temperature of a body, when the average kinetic energy of the molecules of the body is doubled.

2.The most and least values pair of refractive index having substances among the following is
A) Vacuum, Water B) Water, Vacuum C) Vacuum, Diamond D) Diamond, Vacuum
3.Write the value of the speed of light in vacuum

4.Match the following

A) Ø ( ) P) ILB B) F ( ) Q) BA R) B/v

5. Assertion(A): A ray that travelling parallel to the principal axis strikes a concave surface and passes from denser medium to rarer medium reaches a particular point on the principal axis after refraction

**Reason(R):** The refracted ray bends away from the normal when a ray of light travels from denser to rarer medium

Which of the following statement is correct?

- A) Both A, R are correct and R is correct explanation of A
- B) Both A, R are correct and R is not correct explanation of A
- C) A is correct, R is incorrect D) A is incorrect, R is correct
- 6. What is the S.I unit of Resistivity

7. What type of reaction takes place in stomach when an antacid tablet is consumed?

8. Arrange the orbital in ascending order of their energies

### 4s, 3p, 4p, 3d

- 9. Statement I: Dobereiner triad is based on atomic weight.
  - Statement II: F, Cl, Br form Dobereiner triad.

Which statement is correct ?

- 10. Which elements have Octet configuration?
- 11. Give the name of functional group is **-C=O**
- 12. Name the reducing agent in thermite process?

Class: X

12x1/2=6

#### Section-II

### Note:- 1. Answer all the questions

# 2. Each question carries 1 mark

- 13. 1 g of ice at  $0^{0}$  C and 1 g of water at  $40^{0}$  C are mixed. What is resultant temperature ?
- 14. What is meant by "water of crystallization" of a substance?
- 15. On what factors does the refractive index of the medium depend?
- 16. Complete the ray diagram



17. Following orbital diagram shows the electronic configuration of nitrogen atom. Which rule does not support this

$$N(z=7)$$
  $\uparrow \downarrow$   $\uparrow \downarrow$   $\uparrow \downarrow$   $\uparrow \downarrow$   $\uparrow \downarrow$   $\uparrow \downarrow$ 

- 18. If I=4 then what is the minimum and maximum values of  $m_I$
- 19. Which metals are exist in free state in earth crust?
- 20. What is dispersion of light? Give an example

#### Section-III

### Note:- 1. Answer all the questions

## 2. Each question carries 2 marks

- 21. Give two important uses of Bleaching powder?
- 22. When we sit at camp fire, objects beyond the fire are seen swaying. Give the reason for it.
- 23.Abhi asked to differentiate between far point and near point. What questions could you ask to make him to know the differences between far point and near point
- 24. What are the limitations of Mendeleeff's periodic table?
- 25.Represent the molecule **H**<sub>2</sub>**O** using Lewis notation?
- 26.Are the head lights of a car connected in series or parallel? Why
- 27.State the Lenz's law
- 28. What happens when a small piece of sodium is dropped into ethanol?

### Section-IV

## Note:- 1. Answer all the questions

## 2. Each question carries 4 marks

29. Write the differences between heat and specific heat

### (OR)

The focal length of a converging lens is 15 cm. An object is 45 cm from the lens. Where will the image be formed and what kind of image is it?

30. Electronic configuration of an atom is 1s<sup>2</sup>2s<sup>2</sup>2p<sup>2</sup>3s<sup>2</sup>3p<sup>5</sup>

a) What is the name of the element?

- b) Write the atomic number of this element?
- c) How many valency electrons are present in the outermost shell of this element?
- d) To which period and group element belongs?

8X2=16

5X4=20

Observe the following structure of carbon compound and answer the questions



- a) Mention the IUPAC name for the given compound?
- b) Is the compound saturated or unsaturated?
- c) How many prefix in this structure?
- d) What is the name of this functional group?
- 31. How to prove that resistance of a conductor is proportional to the length of the conductor for constant cross section area and temperature

#### (OR)

Suggest an experiment to produce a rainbow in your classroom and explain the procedure 32. Why does tooth decay start when the  $p^{H}$  of the mouth is lower than 5.5?

#### (OR)

Explain the formation of  $N_2$  molecule using valence bond theory

33. Draw a neat diagram of Reverboratory furnace and label it neatly

(OR)

Draw a neat diagram of electronic motor and label it neatly

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