**SSC MODEL PAPER**

**19E (A)**

# GENERAL SCIENCE PAPER – I

*(English version)*

**Parts A and B**

**Time: 2 1/2 Hours]** **[Maximum Marks: 50**

***Instructions:***

1. Answer the questions under **Part –A** on a separate answer book.
2. Write the answers to the questions under **Part – B** on the Question Paper itself and attach it to the answer book of **Part – A**

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## Part – A

**Time: 2 Hours** **Marks: 35**

## SECTION – I

*5 × 2 = 10*

**NOTE:**

1. Answer **ANY FIVE** questions, choosing at least **TWO** from each of the following Groups.
2. Each question carries **2** marks.

### GROUP – A

1. Write the differences between Mass and Weight of a body?
2. What are the applications of LASER in medicine?
3. State and explain Lenz's law?
4. What are the Hardware and Software of a computer?

### GROUP – B

5. How does the atomic size varies in a group and in a period?
6. What is the Ionic product of water? What is its value at $25^0$C?
7. How is Tollen's reagent prepared? How is Glucose tested with it?
8. Draw the structures of Aspirin and Paracetamol?

## SECTION – II

*4 x 1 = 4*

**NOTE:**

1. Answer any **FOUR** questions in one or two sentences.
2. Each question carries **ONE** mark

9. Draw the shape of Electromagnetic wave?
10. What is Resonance?
11. What is Doping?
12. Write the electronic configurations of Cr (Z = 24) and Mg (Z=12) ?
13. What is Polymerisation?
14. What is meant by Adhesive?

## SECTION – III

*4 x 4 = 16*

**NOTE:**

1. Answer any **FOUR** questions choosing at least **TWO** from each group
2. Each question carries **FOUR** marks.

**GROUP – A**

15. What are the essential ideas of Ewing's molecular theory of magnetism?
16. Derive $Q = i^2Rt/J$
17. Compare the properties of $\alpha$, $\beta$, and $\gamma$ radiations?
18. Mention the properties and uses of Junction Transistor?

**GROUP – B**

19. State the postulates of Bohr's model of atom? What are its defects?
20. Explain the formation of triple bond in Nitrogen?
21. Explain the reactions of Alkaline Earth Metals with
    i) Water ii) Oxygen iii) Hydrogen and iv) Chlorine
22. Explain the process of refining of Petroleum?

**SECTION – IV** *1 x 5 = 5*

**NOTE:**

1. Answer any **ONE** of the following questions.
2. It carries **FIVE** marks.

23. Draw the Schematic diagram of Nuclear Reactor and label its parts?
24. Draw the diagram showing the extraction of sugar from Sugar cane and label its parts?

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**19E(B)**

# GENERAL SCIENCE, PAPER – I

*(English Version)*

**Parts A and B**

**Time: 21/2Hours]** **[Maximum Marks: 50**

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## Part – B

**Time: 30 Minutes** **Marks: 15**

***Instructions:***

1. Choose the correct answer from the given options and write the corresponding answers (A,B,C,D) in the brackets provided with Capital Letters.
2. Each question carries ½mark.
3. Answers with overwriting are not valued.
4. Answer all the questions.

**I. Choose the correct answer and mention the corresponding letter in the bracket provided** **10 x ½=5**

1. The law of Gravitation ( )
   A) applies only to large bodies such as planets and stars B) accounts for all known forces
   C) holds only in the solar system D) holds everywhere in the Universe.
2. A car of mass 1200 Kg takes a turn of a curved road of radius 180m with a speed of 6m/s . The centripetal force acting on the car is ( )
   A) 240N B) 144 N C) 1470 N D) 48 N
3. In a stationary wave, the point at which the displacement is maximum is called ( )
   A) Node B) Anti Node C) Crest D) Trough
4. $_{19}K^{40}$ , $_{20}Ca^{40}$ are the examples of ---------- ( )
   A) Isotopes B) Isobars C) Isotones D) Nucleons
5. Majority carriers in a p-type semiconductor are ---------- ( )
   A) Holes B) Electrons C) Electrons and Holes D) negative ions
6. Elliptical orbits were introduced by ( )
   A) Neils Bohr B) Sommerfeld C) Schrodinger D) Zeeman
7. s- p overlapping is present in ( )
   A) $H_2$ B) HCl C) $O_2$D) $Cl_2$
8. Which of the following metal gives peroxides in addition to oxide when burnt in air ( )
   A) Be B) Mg C) Ca D) Ba
9. The $H^+$ Ion concentration of a solution whose PH = 8 is ------ ( )
   A) log $10^{-8}$ B) $10^{-8}$ C) $10^8$ D) 8
10. COOR is ( )
    A) Acid B) Amine C) Ester D) Ketone

**II. Fill in the blanks. Each question carries ½mark** **10 x ½= 5**

11. Screw gauge works on the principle of ----------
12. Time of ascent is directly proportional to ----------
13. Process of achieving population inversion is called as ----------
14. Expand R.P.M----------
15. ---------- is used as rectifier in an electronic circuit.
16. ---------- Period is incomplete.
17. 4 ml of alcohol is dissolved in 36 ml of water. The volume percentage of the solution is -------
18. Solid Carbon dioxide is known as ----------

19. ---------- is the micro organism used in the fermentation of Molasses.
20. The chemical component of Talc is ----------

**. Match the following** **10 x ½= 5**

| | **GROUP : A** | | **GROUP : B** |
|---|---|---|---|
| 21. | α – particle ( ) | A) | Electrically neutral |
| 22. | β - Particle ( ) | B) | Same atomic number |
| 23. | γ .-Particle ( ) | C) | Positive charge |
| 24. | Isotope ( ) | D) | Different number of Protons |
| 25. | Isobar ( ) | E) | Negatively charged |

| | **GROUP : A** | | **GROUP : B** |
|---|---|---|---|
| 26. | $C_3H_8$ ( ) | A) | Propyne |
| 27. | $C_6H_6$ ( ) | B) | Butane |
| 28. | $C_3H_6$ ( ) | C) | Propene |
| 29. | $C_4H_{10}$ ( ) | D) | Benzene |
| 30. | $C_3H_4$ ( ) | E) | Propane |
| | | F) | Butene |

**ANSWERS FOR PART – B**

1) D 2) A 3) B 4) B 5) A 6) B 7) B 8) D 9) B 10) C

11) Screw in a nut 12) Initial Velocity 13) Pumping 14) Rotations per Minuite
15) Diode 16) 7 17) 10 18) Dry Ice 19) Yeast
20) Magnesium Silicate

21) C 22) E 23) A 24) B 25) D
26) E 27) D 28) C 29) B 30) A