

GENERAL SCIENCE PAPER – I

(English version)

Parts A and B

Time : 2½ 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 x 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. Explain the working of Laundry drier?
2. State Faraday's Laws of Electrolysis?
3. What are Isotopes? Give Examples?
4. Draw the symbols of p-n-p and n-p-n transistors?

GROUP – B

5. Explain why electrons enter into 4s orbital but not 3d after filling 3p orbital?
6. 2.12 Grams of Sodium Carbonate (Na_2CO_3) is present in 250 ml of its solution. Calculate the molarity of the solution. (Molecular weight of Na_2CO_3 106).
7. What is Hydrogenation of oils? What is the advantage of hydrogenation?
8. What do you mean by a drug? What are the essential qualities of an ideal drug?

SECTION – II

$4 \times 1 = 4$

NOTE:

1. Answer any **FOUR** questions in one or two sentences.
 2. Each question carries **ONE** mark
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9. Find the velocity of a stone on reaching the ground when it is dropped from a height of 19.6 m.
 10. What is the Magnetic Moment? What are its S.I. units?
 11. Write the names of any four High level languages?
 12. Draw the shape of NH_3
 13. Define PH?
 14. What is Pressmud?

SECTION – III

$4 \times 4 = 16$

NOTE:

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

GROUP – A

15. Distinguish between Centripetal and Centrifugal Force?
16. Describe an experiment to verify Ohm's law?
17. What is the principle of Nuclear Reactor? How is a chain reaction controlled in a nuclear reactor?
18. Explain the formation of p-type semiconductor with a neat diagram?

GROUP – B

19. State and explain with one example the Aufbau principle?
20. How Co-ordinate Covalent bond is formed? Explain with an example?
21. Classify the elements based on the electronic configuration and explain?
22. Compare the structures of Diamond and Graphite?

SECTION – IV

$1 \times 5 = 5$

NOTE:

1. Answer any **ONE** of the following questions.
 2. It carries **FIVE** marks.
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23. Draw the magnetic lines of force when North pole of a bar magnet facing Geographic North and locate the null points?
 24. Draw the diagram showing the extraction of magnesium from its ore?

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GENERAL SCIENCE,PAPER – I*(English Version)***Parts A and B****Time : 21/2Hours]****[Maximum Marks : 50****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. Weight of a stone of mass 400 gms is _____ ()
A) 0.041N B) 0.4N C) 3.92N D) 39.2N
2. The Least count of a screw gauge, whose head scale consists 50 divisions and its pitch 0.5mm is ----- ()
A) 0.1mm B) 0.01mm C) 0.1 cm D) 0.01 cm
3. 1 K.W.H = ----- watt seconds ()
A) 36×10^5 B) 36×10^4 C) 36×10^6 D) 36×10^3
4. Thorium Series is ----- Series ()
A) $4n + 3$ B) $4n + 2$ C) $4n + 1$ D) $4n$
5. Which of the following is an example for Dia magnetic substance ()
A) Bi B) O₂ C) Fe D) Ni
6. Among 3p, 4s, 3d and 4p which orbital has least energy ()
A) 4s B) 3d C) 3p D) 4p
7. Mendeleev's periodic table is based on ----- ()
A) Atomic weight B) Atomic size C) Atomic number D) Volume of an atom
8. C₄H₁₀ is the formula for ----- ()
A) Butyne B) Butene C) Butane D) Pentene
9. Colour of Methyl orange indicator in acidic medium is ()
A) Yellow B) Red C) Green D) Orange
10. Defecation is the addition of ----- ()
A) CO₂ B) Ca (OH)₂ C) SO₂ D) P₂O₅

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

11. Diagnosis using x – rays is known as -----
12. The phase difference for a Constructive superposition is -----
13. Unit of Intensity of magnetization is -----
14. The process of fixing messages to r.f. carrier waves is called -----
15. Expand C.P.U. -----
16. Shape of p- orbital is -----
17. The reagent used to prepare BeH₂ from BeCl₂ is -----

18. Spent cane is called as -----
 19. The formula of Stearic acid is -----
 20. Slow cooling of glass is known as -----

. Match the following

10 x 1/2= 5

GROUP : A

GROUP : B

- | | | | |
|---------------|-----|----|---|
| 21. Mouse | () | A) | a combination of Diodes and Transistors |
| 22. Printer | () | B) | Input device |
| 23. I C | () | C) | Set of instructions |
| 24. BIT | () | D) | All the physical parts of a computer |
| 25. Programme | () | E) | Out put device |
| | | F) | 0 or 1 |

GROUP: A

GROUP: B

- | | | | |
|-----------------------|-----|----|--|
| 26. - OH | () | A) | CH ₃ COOH |
| 27. - COOH | () | B) | C ₃ H ₇ NH ₂ |
| 28. - COOR | () | C) | CH ₃ OH |
| 29. -CHO | () | D) | CH ₃ CO CH ₃ |
| 30. - NH ₂ | () | E) | CH ₃ COOC ₂ H ₅ |
| | | F) | CH ₃ CHO |

ANSWERS FOR PART – B

- 1) C 2) B 3) A 4) D 5) A 6) C 7) A 8) C 9) B 10) B
- 11) Radiography 12) $2n\pi$ 13) Amp / met 14) Modulation
 15) Central Processing Unit 16) Dumbell 17) LiAlH₄
 18) Bagasse 19) C₁₇H₃₅COOH 20) Annealing
- 21) B 22) E 23) A 24) F 25) C
 26) C 27) A 28) E 29) F 30) B