

General Science, paper – I

(English Version)

PART – A & PART – B

Model Paper – II

Time: (2 hours, 45 minutes)

Maximum Marks: 40

Instructions:

- i) Read the whole question paper and understand every question thoroughly without writing anything and 15 minutes of time is allotted for this
- ii) Answer the question under PART- A on a separate answer book
- iii) write the answer to the questions under PART-B on the question paper itself and attach it to the answer book of PART-A

PART – A

Time: 2 Hours

Marks : 35

Instructions:

- i) Answer all questions from the given three sections I, II, III of PART – A
- ii) In section III, every question has internal choice, answer any one alternative.

SECTION – I

$7 \times 1 = 7$

NOTE:

- i) Answer all questions
 - ii) Each question carries one mark
 - iii) Write the answer in 1 or 2 sentences
1. Silver is a better conductor of electricity than copper why do we use copper wire for conduction of electricity?
 2. Why should we balance a chemical equation?
 3. How can you verify that a current carrying wire produces a magnetic field?

4. What is meant by “water of crystallization” of a substance?
5. Write the information which is collected by you about generation of current by using Faraday’s law.
6. Explain briefly the reason for the blue color of the sky?
7. Give one example for straight chain compound?

SECTION – II

6 × 2 = 12

Note:

- i) Answer all questions
 - ii) Each question carries two marks
 - iii) Write the answers in 4 to 5 sentences
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8. How do we connect fuse in electric appliance in parallel in a house hold circuit? Series? Explain
 9. If 40gm of methane is burnt, then how much amount of CO_2 is released?
 10. What is octet rule? How do you appreciate role of the ‘octet rule’ in explaining the chemical properties of elements?
 11. To form the image on the object itself, how should we place the object in front of a concave mirror? Explain with a ray diagram
 12. Write the four quantum numbers for the differentiating electron of sodium (Na) atom
 13. Assume that an object is kept at a distance of 20cm in front of a concave mirror. If focal length is 30cm, then
 - a) What is the image distance?
 - b) What is the magnification of mirror in this case

SECTION – III

4 × 4 = 16

Note:

- i) Answer all questions
- ii) Each question carries four marks
- iii) There is internal choice for each question, only one option from each question is to be attempted
- iv) write the answers in 8 – 10 sentences

14. Conduct an experiment to find the focal length of concave mirror

(or)

Explain kirchhoff's laws with examples

15. Explain the formation of N₂ molecule and O₂ molecule using valence bond theory.

(Or)

Explain the significance of three quantum numbers in predicting the position of an electron in an atom

16. Explain the activity that was done by you in your classroom for the formation of rainbow?

(Or)

State ohm's law suggest an experiment to verify it and explain the procedure

17. How do you appreciate the role of esters in everyday life?

(Or)

Why does the flow of acid rain into a river make the survival of aquatic life in a river difficult? Explain it

PART – B

Time: 30 minutes

Marks: 5

Instruction:

Attach PART-B question paper to the main answer book of PART – A

Note:

- i) Answer all questions
- ii) Each question carries ½ marks
- iii) Answers are to be written in the question paper only
- iv) Marks will not be awarded in any case of over – writing or erased answers

18. Curvature of the spherical mirror is 20cm, then the Focal length of the spherical mirror is ----- cm ()
- A) 10 B) 20 C) 30 4) 40
19. Example for exothermic reaction which is given below ()
- A) $C + O_2 \text{-----} > Co_2 + Q$ B) $C + O_2 \text{-----} > Co_2 - Q$
- C) $C + O_2 + Q \text{-----} > Co_2$ D) B and C
20. The lens which form real image and virtual image is ()
- A) Concave lense B) Convex lense
- C) Plane Lense D) None of these
21. The rays have ----- wave property in electromagnetic spectrum ()
- A) Longitudinal B) Mechanical
- C) Transverse D) Forward
22. Reason for electric shock to our body ()
- A) High Resistance B) High Voltage
- C) High electricity D) Wet

23. A non-metal which has rigidity ()
A) Platinum B) Gold
C) Silver D) Diamond
24. An Instrument that doesn't depend upon mutual inductance ()
A) Motor B) Tesla Coil
C) Trans former D) None of the above
25. Molecule which has S-P over lap ()
A) H₂ B) Cl₂ C) O₂ D) HCl
26. Refraction occurs in light ----- doesn't change ()
A) Wave length B) Velocity
C) Frequency D) Colour
27. Elements having ns^2np^6 electron configuration are ()
A) S – block B) P – block
C) d – block D) Noble gases