

Instructions to Students: Read all the questions thoroughly and write down the answers.

This question paper contains a total of 4 parts. They are

- I. There will be 4 questions. Each question carries 4 marks. Answer all the questions.
- II. There will be 6 questions. Each question carries 2 marks. Answer all the questions.
- III. There will be 7 questions. Each question carries 1 mark. Answer all the questions.
- IV. There will be 10 multiple choice questions each question carries $\frac{1}{2}$ mark. Answer all the questions.

I. Answer all the questions. Each question carries 4 Marks

4 x 4 = 16

1. Define modern periodic law. Discuss the construction of long form of the periodic table.
2. What is Ohm's law? Suggest an experiment to verify it and explain the procedure.
3. Explain the working of DC generator.
4. Explain the formation of an oxygen molecule on the basis of valence bond theory.

II. Answer all the questions. Each question carries 2 Marks.

6 x 2 = 12

5. Represent the molecule H₂O by using Lewis notation.
6. What is a catalyst?
7. Let one element belong to the third period, the second group. What is the valency of that element? How many valence electrons does it contain?
8. Derive the equivalent resistance of three resistors when they are joined in parallel.
9. Name the simplest ketone and its molecular formula?
10. Write any two characteristics of an element having atomic number 17?

III. Answer all the questions. Each question carries 1 Marks.

7 x 1 = 7

11. Which Bond is formed between Cation and Anion?
12. What is the value of 1 KWH in Joule?
13. Write names of three metals that are available in a free State in nature?
14. Write the modern periodic law.
15. How is an octet bond formed?
16. What is meant by electric force?
17. What are the physical methods to be used for Enrichment (concentration) of an ore?

IV. Answer all the questions. Each question carries 1/2 Marks.

10 x 1/2 = 5

18. The bond shared by two electron pairs between atoms of fusion is called?
 - a. Single Bond
 - b. Double bond
 - c. Triple Bond
 - d. None of these
19. The magnetic flux density is the ratio of the magnetic flux and ?
 - a. Perimeter
 - b. Width
 - c. Length
 - d. Area
20. Which metals are not freely available in nature?
 - a. Zn, Fe and Pb
 - b. K, Na, Ca, Mg and Al
 - c. C,H,N and O
 - d. None of these

21. What is the family of the elements in the group IVA?
a. Carbon family b. Boron family c. Alkali Metals d. Nitrogen family
22. What is the number of atoms of (Crypton) Kr?
a. 26 b. 56 c. 46 d. 36
23. What is the S.I. Unit for current flow?
a. Newton b. Time c. Ampere d. Ohm's
24. One Tesla?
a. Newton/Coloumb b. Newton / ampere-meter c. Ampere / meter d. Newton / ampere second
25. Ethane is commonly known as?
a. Ethylene b. Butane c. Acetylene d. None of these
26. The elements that Mendeleev would invent in future will be?
a. Eka-aluminium b. Eka-Silicon
c. Eka-Boron d. All
27. Which is the carbon variant used in the manufacture of drugs that end Melanoma cancer cells?
a. Diamond b. Graphite c. Buckminster Fullerene d. None of these