**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE, SUNDARAKOTTAI, MANNARGUDI-614016**

 **DEPARTMENT OF CHEMISTRY**

 **SUB:** General chemistry II **SUB CODE:** 16SCCCH2

 **CLASS:** I-BSc Chemistry **SEMESTER: II**

 **QUESTION BANK**

**TWO MARKS:**

 1.What is an ionic bond?

 2.Define hydration energy?

 3.Define lattice energy?

 4.What is polarisation?

 5.What are the properties of ionic bond?

 6.What are noble gases?Give the name of any three gases.

 7.Which is the most abundant rare gas in the atmosphere?

 8.Give the structure of XeF6,XeF4 and XeOF4?

 9.Mention two important uses of helium.

 10.Mention an important use of argon.

 11.What are alkynes?Give examples.

 12.How acetylene react with sodium and silver?

 13.Electrophilic substitution explain with examples.

 14.State the uses of naphthalene.

 15.How is acrtic acid obtained from acetylene?

 16.What is carbocation?How it is formed?

 17.What is carbanion?How it is formed?

 18.What is electrophile?Give an example.Why is it called so.explain.

 19.Define aromaticity.

 20.What are the uses of haloalkanes?

 21.What are the fundamental particles of matter?

 22.Write short note on Black body radiation.

 23.Write short note on Photo electric effect.

 24.Write short note on Compton effect.

 25.Write short note on principle quantum number.

 **FIVE MARKS**

1. Explain Born –Haber cycle.

2. State and explain Fajan’s rules.

3. Explain the valence bond theory.

4. Explain the hybridisation of BeCl3 and BCl3.

5. Describe the molecular orbital theory.

6. Write a short notes on Nascent hydrogen and occluded hydrogen.

7. How will you prepare lithium?

8. Explain the diagonal relationship between beryllium and aluminium.

9. What are the methods that can be used to reduce ore into metal oxide.

10. Explain the Aluminothermic Process.

11. Explain aromaticity and its characters.

12. Discuss the structure of Anthracene.

13. State and explain Huckel’s rule

14. Explain the synthesis of Anthracene and preparation of Alizarine

15. State and uses of naphthalene.

16. Explain E1 & E2 mechanism.

17. Discuss the Saytzeff’s elimination.

18. Write the Elimination Reactions.

19. Explain aroamtic nucleophilic substitution.

20. What are the distinction between E1 & E2 reactions.

21. Write short note on

 a. Black Body Radiation.

 b. Photo-Electric effect

22. Describe Bohr’model of atom? Discuss its success and limitations.

23. State and explain Heisenberg’s uncertainty principle.

24. Write Schrodinger wave equation and give the significance of each term involved in it.

25. Describe the Bohr’s theory of hydrogen spectrum.

**TEN MARKS**

 1. State and explain VSEPR theory.

 2. Explain the MO theory and MO diagram of N2 and O2.

 3. Define hybridisation.Explain in detail.

 4. Define hydrogen bond. Explain its types and consequences.

 5. Explain the diagonal relationship between lithium and magnesium.

 6. How metals are purified by various techniques? Explain.

 7. How lithium is extracted?Explain

 8. Mention the important xenon fluorides.Describe the method of preparation of fluorides of xenon.

 9. Explain with examples: Electrophilic substitution.

 10. a) Give the physical properties of benzene.

b) Explain any two chemical properties of Benzene with its mechanisms.

 11. Elaborate the preparation and properties of naphthalein.

 12. Describe the preparation,properties and uses of biphenyl.

 13. Give the mechanisms of aliphatic SN1 and SN2 and reactions.

 14. Explain general methods of preparation,properties and uses of haloalkanes.

 15. Explain the methods of preparation of alkyl halides.

 16. Explain elimination reactions.

 17. Explain Debroglie theory and derive its equation.

 18. Write an essay on Sommerfeld’s atom model and its limitations.

 19. What are quantum numbers? Explain its types.

 20. Describe the significance of ψ and ψ2