B.Sc. DEGREE EXAMINATION,APRIL 2019
II Year IV Semester
General Chemistry- VIII

Time : 3 Hours   **Max.marks :60**

Section A $(10 \times 1 = 10)$ Marks

Answer any **TEN** questions

1. Chemical potential is an extensive or intensive property?
2. Why chemical equilibrium is in a dynamic state?
3. Define fugacity.
4. Partial molar quantities will they depend or independent of the size of the system-comment.
5. What is the significance of Duhem-Margules equation?
6. What is the need for third law of thermodynamics?
7. Write the IUPAC name for C_6H_5-O-CH(CH$_3$)-C_6H_5.
8. What are crown ethers?
9. What is a mustard gas?
10. Why thiols have low boiling point than alcohols?
11. What are mercaptides?
12. Why RLiX is more reactive than RMgX?

Section B $(5 \times 4 = 20)$ Marks

Answer any **FIVE** questions

13. Discuss the structure and bonding in ethers.
14. Give any two methods of preparation of mercaptans.
15. Give a method of preparation of organo lead and its uses.
16. What happens when diethyl ether reacts with air and water?
17. Discuss Nernst heat theorm.
18. Calculate ΔG^0 at 303K for a reaction when Kp=100.
19. Write short notes on cyclic polyether.

Section C $(3 \times 10 = 30)$ Marks

Answer any **THREE** questions

20. Derive K_c and K_p for an equilibrium reaction.

21. Determine the fugacity of gas by graphical and approximate calculation method.

22. Write the Gibbs Duhem equation. Explain the effect of T and P on chemical potential.

23. Give any two methods of preparation of sulphonal and thio ether.

24. How are the following compounds prepared from Grignard Reagent? i) Tertiary alcohol ii) Ketone iii) esters iv) carboxylic acid.

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