1ST SEM. /COMMON ./ 2022(W) Th-2 Engineering Chemistry

Full Marks: 80

Time- 3 Hrs

Answer any five Questions including Q No.1& 2 Figures in the right hand margin indicates marks

1. Answer All questions

2 x 10

- a. What are insecticides? Give two examples.
- b. Define isotope with suitable example.
- Mention the basic steps involved in the metallurgical operation.
- d. Define Huckel's rule for aromaticity.
- e. What is double salt? Give an example.
- f. How temporary hardness can be removed?
- g. What is degree of polymerization?
- h. Define lubricant. Give an example of a semi-solid lubricant.
- i. What is Galvanisation?
- j. To which class of compound C₄H₁₀ belongs and how?
- Answer Any Six Questions

6 x 5

- a. Define covalent bond. Explain the formation of CH₄ molecule.
- b. What are bio-fertilizers? Give some examples.
- c. What are the differences between thermoplastic and thermosetting polymers?
- d. a. Write the structural formula of the following organic compounds:
 - (i)But-1-en-3-yne
 - (ii) 3,4-dimethyl pentan-2-ol
 - (iii)Tert-butyl alcohol
 - b. Write the IUPAC name of
 - (i) CH3- CH(C2H5)- CH(C2H5)- CH3
 - (ii) CH₃ CH(CI)CH(Br)CH₂CH(NO₂)CH₃
- e. Explain the froth floatation method of concentration of ores.
- f. Define Normality. 4 grams of NaOH are present in 2 litre of its solution. Find its normality and molarity.
- g What is a lubricant? Write the major functions of lubricants.

3	a.	State and explain Bohr's atomic model.	6 + 4
	b.	Write down the composition and uses of Brass and Bronze.	
4	a.	What are saturated and unsaturated hydrocarbons? Is benzene saturated? Justify your answer.	5+5
	b.	Explain Bronsted-Lowry Theory of Acid and Bases	
5		State and explain Faraday's 1 st and 2 nd law of electrolysis. How many grams of calcium will be deposited at the cathode by passing 15 ampere of currents through molten CaCl ₂ for 30 minutes?	4+4+2
6	a.	Write the composition and uses of PVC.	5 + 5
	b.	Define fuel. What are the characteristics of a good fuel?	
7	a.	How hard water can be softened by lon-exchange process?	6+4
	b.	Differentiate between calcination and roasting.	

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