

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
- What are insecticides? Give two examples.
 - Define isotope with suitable example.
 - Mention the basic steps involved in the metallurgical operation.
 - Define Huckel's rule for aromaticity.
 - What is double salt? Give an example.
 - How temporary hardness can be removed?
 - What is degree of polymerization?
 - Define lubricant. Give an example of a semi-solid lubricant.
 - What is Galvanisation?
 - To which class of compound C_4H_{10} belongs and how?
2. Answer **Any Six** Questions 6 x 5
- Define covalent bond. Explain the formation of CH_4 molecule.
 - What are bio-fertilizers? Give some examples.
 - What are the differences between thermoplastic and thermosetting polymers?
 - 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) $CH_3-CH(C_2H_5)-CH(C_2H_5)-CH_3$
(ii) $CH_3-CH(Cl)CH(Br)CH_2CH(NO_2)CH_3$
 - Explain the froth floatation method of concentration of ores.
 - Define Normality. 4 grams of NaOH are present in 2 litre of its solution. Find its normality and molarity.
 - 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 1st and 2nd 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 Ion-exchange process? 6 + 4
- b. Differentiate between calcination and roasting.