2ND SEM . / COMMON / 2023(S) NEW

Th- 2 (b) Engineering Chemistry

Time- 3 Hrs

Full Marks: 80

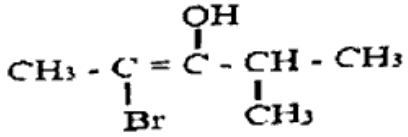
Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

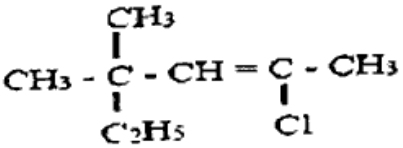
2 x 10

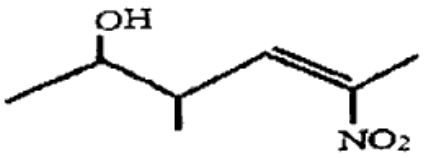
1. Answer All questions
   a. What is gangue?
   b. Define isotone. Give a suitable example of it.
   c. What do you mean by neutralisation reaction? Give an example of it.
   d. Define homopolymer. Give an example of it.
   e. What is calorific value of fuel?
   f. Define electrovalent bond.
   g. Define hard water. What is the cause of hardness of water?
   h. Write down the general formulae of alkane and alkene.
   i. What are herbicides? Give an example of herbicide.
   j. Define P^H. What is the range of P^H for acidic solutions?

6 x 5

2. Answer Any Six Questions
   a. Explain the mechanism of rusting of iron.
   b. Write down the IUPAC names/structural formulae of the following:

(i)


(ii)


(iii)


(iv) 5-Bromo-3-chlorohex-4en-3-ol

(v) 2,4-Dimethylpenta-1,3-diene

   c. What are the advantages of hot lime soda process over cold lime soda process?
   d. Define and explain Hund's rule.
   e. 2.45 g of H_2SO_4 is present in 2 litres of its solution. Calculate its molarity and normality.
   f. Explain magnetic separation method of concentration of ores.
   g. Define and explain Arrhenius theory of acids and bases.

3	(a)	State Bohr-Bury scheme.	5
	(b)	Explain electrolysis of molten NaCl and predict the products obtained at different electrodes.	5
4	(a)	Write down the composition and uses of alnico and duralumin.	5
	(b)	Distinguish between aliphatic and aromatic hydrocarbons.	5
5	(a)	Give a brief note on composition and uses of Bakelite.	5
	(b)	Define and explain vulcanisation of natural rubber.	5
6	(a)	12 g of NaOH is present in 1.5 lit of its solution. Find P^H of the solution.	6
	(b)	Define with examples acidic and basic salts.	4
7	(a)	Write down the composition and uses of producer gas and water gas.	4
	(b)	What are the outcomes of Rutherford's gold foil experiment?	6