

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

Th- 2 (b) Engineering Chemistry

Full Marks: 80

Time- 3 Hrs

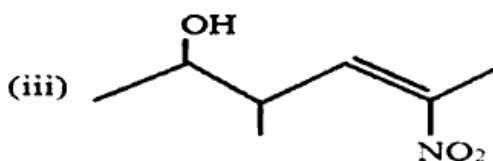
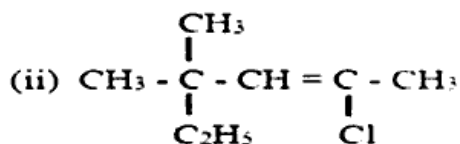
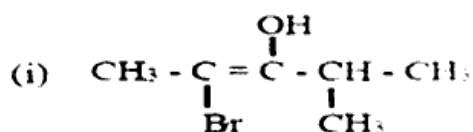
Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1. Answer All questions 2 x 10

- a. What 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?

2. Answer Any Six Questions 6 x 5

- a. Explain the mechanism of rusting of iron.
- b. Write down the IUPAC names/structural formulae of the following:



(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

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