

B.Sc. (Industrial Chemistry) Examination April - 2016
Semester-III
Paper- IC-302: Fundamental of Chemical Engineering-I
Subject Code: 3796

Time: 2.30 Hours

Total Marks: 70

- Que.1 (A) Write a short note on filter medium and filter medium. [10]
(B) Give dimension and units of density and force. [04]
OR
- Que.1 (A) Discuss atomic weight, molecular weight and equivalent weight with example. [10]
(B) State and explain Avogadro's law. [04]
- Que.2 (A) What is filtration? Discuss centrifuge with its application. [10]
(B) What is the weight % of C in acetone? [04]
OR
- Que.2 (A) Define absorption. Write a note on spray column absorber. [10]
(B) Find out weight % of C in benzene. [04]
- Que.3 (A) Define extraction. Explain spray column extractor. [10]
(B) How many grams of NH_4Cl are there in 5 mol? [04]
OR
- Que.3 (A) A single effect evaporator is fed with 10,000 kg/hr. of weak liquor containing 15% NaOH by weight and is concentrated to get thick liquor containing 40% by weight NaOH. Calculate (1) kg/hr of water evaporated (2) kg/hr of thick liquor obtained. [10]
(B) Define crystallization with example. [04]
- Que.4 (A) A saturated solution of salicylic acid in methanol contains 64 kg salicylic acid per 100 kg methanol. Find weight % and mole % composition of the solution. [10]
(B) What is saturation and super saturation? Explain it. [04]
OR
- Que.4 (A) What is combustion? Explain calorific values of fuels. [10]
(B) Find out weight % of O in formaldehyde. [04]
- Que.5 (A) Write a short note on scale of specific gravity. [10]
(B) What is difference between extraction and absorption? [04]
OR
- Que.5 (A) Crude oil is found to contain 87% carbon 12.5% hydrogen and 0.5% sulphur. Calculate the net calorific value of crude oil at 298K. (The G.C.V. of fuel = 45071 kJ/kg and latent heat of water vapour = 2442.5 kJ/kg) [10]
(B) Give dimension and units of area and volume. [04]