SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Write note on any two:

a) Classification of heat exchange and evaporation

b) Elementary and non-elementary reactions.

c) Newton's Law of cooling.

Q.24 Explain various mode of heat transfer in detail?

Q.25 Explain manufacturing process of urea with neat and clean flow sheet?

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1st Year / Chemical Engg.

Subject : Introduction to Chemical Engineering

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 Evaporation takes place from the surface of the liquid

a) true b) contrary

c) false d) None of these

Q.2 Value of Henry's law constant of a gas depend on-

a) Nature of gas b) Temp and Pressure

c) Both a and b d) none of these

Q.3 The transfer of energy due to movement of particles of body is known as

a) Conduction b) Radiation

c) Convection d) None of these

Q.4 _____ is a measure of resistance to deformation at a given rate

a) Pressure b) Force

c) Viscosity d) None of these

Q.5 Expand CSTR

a) Continuous stirred tank reaction

b) Combine stirred tank reaction

c) Continuous standard tank reaction

d) Composition standard tank reaction

Q.6 What is unit for Mole Friction

a) moles b) unit less

c) gm./ moles d) none of these

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Define forced convection and give an example.

Q.8 Define heat transfer with example.

Q.9 Name any one reactor used in chemical industries.

Q.10 Define molecularity of reaction.

Q.11 What is black body.

Q.12 Give two examples of conduction.

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Explain Fourier's law of heat conduction

Q.14 Write a Note on Thermal Conductivity and its unit.

Q.15 What is diffusivity and give its unit

Q.16 Classify mass transfer operation

Q.17 Calculate the value of rate constant for first order reaction if value of half-life period is 45 second

Q.18 Differentiate between elementary and Non elementary reaction

Q.19 Explain Charles Law

Q.20 Give statement of Stefan Boltzman law and specified is term involved

Q.21 Write a note on Newton's law of viscosity.

Q.22 Write a note on Newtonian and Non Newtonian fluids.