

- a) Definition of black body & grey body
- b) Classification of mass transfer operation.
- c) List of reactors used in Chemical Industries.
- d) Various Unit process

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**1st Sem. Branch: Chemical Engg.
Sub : Introduction to Chemical Engineering**

Time : 3 Hrs.

M.M. : 60

SECTION-A

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

- Q.1 What is the unit of mole fraction?
 - a) N/m³
 - b) M²
 - c) Kg/m³
 - d) None
- Q.2 How many types of process units are there?
 - a) 2
 - b) 3
 - c) 4
 - d) 5
- Q.3 Choose any one an ideal fluid of the following.
 - a) Water
 - b) Blood
 - c) Honey
 - d) None
- Q.4 Which method of heat treatment is fastest?
 - a) Conduct
 - b) Convect
 - c) Radiation
 - d) None

Q.5 What is the time period for first order reaction?

- a) 5 min
- b) 10 min
- c) 15 min
- d) 20 min

Q.6 Which process is always exothermic?

- a) Evaporation
- b) Adsorption
- c) Absorption
- d) None

Engineer?

Q.14 Differentiate between unit operation & unit process.

Q.15 Define fluid & ideal fluid.

Q.16 Discuss Newton's law of viscosity.

Q.17 Explain Fourier's law of heat conduction.

Q.18 Give the classification of heat exchangers.

Q.19 Define mass transfer & diffusivity.

Q.20 List various equipments used for distillation in Chemical industries.

Q.21 What is the difference between homogenous & heterogeneous reaction?

Q.22 Write a note on manufacturing process of urea.

SECTION-B

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

Q.7 Write any one application of chemical engineering.

Q.8 What is laminar flow?

Q.9 List various modes of heat transfer.

Q.10 What is the unit of diffusivity?

Q.11 Which reaction is called exothermic reaction?

Q.12 Give the concept of batch process.

SECTION-D

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

Q.23 Explain in detail Boyle's law, Charle's law & derivation of ideal Gas Law.

Q.24 What are the various properties of fluids? Define in detail.

Q.25 Write short notes on any two of the following:-

SECTION-C

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

Q.13 What is Chemical Engineering & Chemical

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