

SECTION-D

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

- Q.23 Explain the manufacturing of sugar with neat and clean flow sheet with process description and advantages
- Q.24 Define and discuss the significance of flash point, fire point, cloud point, pour point, smoke point, aniline point, octane, cetane number, specific gravity, viscosity, and viscosity index in the characterization of petroleum.
- Q.25 Discuss the urea manufacturing process with reactions involved, the role of key catalysts, and the significance of each step in the production of urea along with flowsheet

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3rd Sem. / Chemical (Pulp & Paper)

Subject : Process Industries

Time : 3 Hrs.

M.M. : 60

SECTION-A

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

- Q.1 What is the primary purpose of the bleaching process in sugar technology ?
- a) Removal of impurities
 - b) Crystallization
 - c) Filtration
 - d) Juice classification
- Q.2 What are micro-nutrients in fertilizers ?
- a) Essential vitamins
 - b) Minor elements required in small quantities
 - c) Primary nutrients
 - d) Macronutrients
- Q.3 What are the major engineering problems associated with the production of portland cement ?
- a) High temperature and pressure
 - b) Gypsum Crystallization and filtration

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- c) Water shortage and waste disposal
 - d) Clinker formation and air pollution
- Q.4 What is the significance of the octane number in petroleum properties ?
- a) Ignition quality in gasoline
 - b) Viscosity of crude oil
 - c) Corrosiveness of diesel
 - d) Flash point of kerosene
- Q.5 What is the function of the atmospheric Distillation Unit (ADU) in refining ?
- a) Cracking
 - b) Desalting
 - c) Distillation
 - d) Dewaxing
- Q.6 The specific gravity of petroleum is a measure of its :
- a) Density relative to water
 - b) Flash point
 - c) Sulfur content
 - d) Pour point

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. $(6 \times 1 = 6)$

- Q.7 Write formula for Ammonia.
- Q.8 What is Cement
- Q.9 Which component is removed during the desalting process in petroleum refining?

- Q.10 What is the purpose of the crystallization process in sugar technology?
- Q.11 Define Hydrogenation?
- Q.12 N, P, K stand for _____.

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. $(8 \times 4 = 32)$

- Q.13 Differentiate between filtration and sedimentation?
- Q.14 Provide an overview of different nutrients essential for plant health, and explain their significance in ensuring optimal crop development.
- Q.15 Write about the manufacturing of cement along with Composition and raw material.
- Q.16 Different between Desulphurization and dewaxing?
- Q.17 Explain the manufacturing process of super phosphate (SSP)
- Q.18 Write down about composition and raw material of cement
- Q.19 Explains fractional distillation with its types.
- Q.20 Write down about the composition & classification of Petroleum
- Q.21 Explain about polymerization.
- Q.22 Write properties and uses of ammonia.