

- Q.30 Differentiate between thermal and catalytic cracking in the refining process and provide examples of products obtained from each.
- Q.31 Discuss the production of ammonium nitrate, focusing on its use in both fertilizers and explosives. Highlight the safety considerations associated with ammonium nitrate manufacturing and storage.
- Q.32 Explain the concept of cold process polymerization and its advantages. How does hot sulfuric acid polymerization differ from other polymerization methods.
- Q.33 Discussion details the visbreaking process
- Q.34 Write a brief overview of the key steps involved in the manufacturing of cement.
- Q.35 Discuss in detailed overview of manufacturing process of Single Super Phosphate (SSP) fertilizer, including the raw materials used, reactions involved, and the role of sulfuric acid in the process.

SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 Describe about the simplified flow sheet of the sugar manufacturing process and briefly explain each major step involved.
- Q.37 What is fertilizer. Explain the manufacturing of Ammonia clean flow sheet process and also explain major engg problem.
- Q.38 Write short note on any three:-
 a) Reforming b) Bleaching
 c) Uses of cement d) Crude oil

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4th Sem / P & P Subject:- Process Industries

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 Urea is a common nitrogenous fertilizer. What is its primary source of nitrogen?
 a) Ammonia b) Phosphate rock
 c) Potassium chloride d) Nitric acid
- Q.2 Which process is used to separate different components of petroleum based on their boiling points?
 a) Distillation b) Filtration
 c) Evaporation d) Sublimation
- Q.3 What is the primary ingredient in cement production?
 a) Iron ore b) Sand
 c) Gypsum d) Limestone
- Q.4 What is the process of extracting sugar from sugarcane or sugar beet called?
 a) Refining b) Distillation
 c) Filtration d) Extraction
- Q.5 SSP (Single Superphosphate) is a fertilizer containing which essential nutrient.
 a) Nitrogen b) Phosphorus
 c) Potassium d) Calcium

- Q.6 Which term refers to the maximum temperature at which petroleum vapors can be ignited when exposed to an open flame?
 a) Boiling point b) Melting point
 c) Flash point d) Ignition point
- Q.7 The process of converting sugar cane juice into raw sugar involves which of the following processes?
 a) Fermentation b) Distillation
 c) Evaporation d) Polymerization
- Q.8 What is the process of converting heavy hydrocarbons into lighter ones by breaking chemical bonds?
 a) Distillation b) Hydrogenation
 c) Cracking d) Polymerization
- Q.9 DAP (Diammonium Phosphate) is a fertilizer that provides which two essential nutrients?
 a) Nitrogen and phosphorus
 b) Phosphorus and potassium
 c) Nitrogen and potassium
 d) Nitrogen and calcium
- Q.10 What is the primary hydrocarbon compound found in petroleum?
 a) Ethanol b) Methane
 c) Propane d) Butane

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 Name three common micronutrients used in agriculture.
- Q.12 What is molasses?

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- Q.13 What is fire point?
 Q.14 Define Crystallization?
 Q.15 What is the definition of cement in construction?
 Q.16 Write formula of API gravity.
 Q.17 Write full form of ASTM
 Q.18 Define Petroleum?
 Q.19 Define Viscosity.
 Q.20 Can you name anyone of the major cement industries operating in India?

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Explain the dewaxing process in petroleum refining. Why is it important, and what products benefit from this process?
- Q.22 What are micronutrient in the context of plant nutrition, and why are they essential for healthy plant growth?
- Q.23 What are the main raw materials and composition used in the production process of portland cement?
- Q.24 Difference between ADU and VDU?
- Q.25 Difference between dehydration and desalting.
- Q.26 Describe the settling process in sugar production and its role in separating impurities from juice.
- Q.27 Write a list of major petroleum refineries in India along with their locations and refining capacities Highlight any specific characteristics or specialties of these refineries.
- Q.28 Write about composition & classification of Petroleum.
- Q.29 Write properties and uses of UREA.

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