

- Q.27 Explain crystallization with diagram.
 Q.28 Write about manufacturing of DA.
 Q.29 Discuss reforming and its types.
 Q.30 Write properties and uses of ammonia.
 Q.31 Explain the concept of Pretreatment of crude oil.
 Q.32 Discuss major engg. Problems associated with oil and fat industry.
 Q.33 With Diagram, discuss about the reactor and its types.
 Q.34 Write about the fertilizers and its types.
 Q.35 Difference between atmospheric distillation and vacuum distillation?

SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 Explain the process of manufacturing of Urea with flow sheet and uses
 Q.37 Define purification. Explain the manufacturing of sugar with flow sheet
 Q.38 Write short note on any three:-
 a) Settling process
 b) Desalting
 c) micronutrient
 d) saponification

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4th Sem / Chemical Engg. Subject:- Process Industries

Time : 3Hrs.

M.M. : 100

SECTION-A

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

- Q.1 Which of the following does not come under the category of 'micro-nutrient' for plant growth?
 a) Chlorine b) Iron
 c) Boron d) Carbon
 Q.2 Triple superphosphate is made by reacting phosphate rock with _____ acid
 a) Phosphoric b) Nitric
 c) Sulphuric d) Hydrochloric
 Q.3 Flash point of an oil is determined by the
 a) Pensky Martens apparatus
 b) Ramsbottom apparatus
 c) Saybolt viscometer
 d) Conradson apparatus
 Q.4 Gypsum is chemically
 a) Calcium chloride b) Calcium sulphate
 c) Sodium sulphate d) Potassium sulphate

- Q.5 An oil is converted into fat by its
a) Hydrogenation b) Hydrolysis
c) Hydrocracking d) Hydration
- Q.6 Natural Gas largely constitutes of which of the mentioned?
a) Ethane b) Methane
c) Butane d) Pentane
- Q.7 Drying can be characterized as which of the mentioned?
a) Unit process
b) Unit process and Unit operation
c) Unit operation
d) None of the mentioned
- Q.8 _____ catalyst is used in the production of urea from Co₂ and NH₃.
a) Vanadium pentoxide b) No
c) Alumina d) Nickel
- Q.9 Soaps are _____ based soapy detergents.
a) Water b) Kerosene
c) Oil d) Acid
- Q.10 Carbon percentage (by weight) in crude petroleum may be about
a) 65 b) 75
c) 85 d) 35

SECTION-B

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

- Q.11 Write one disadvantage of Batch reactor?
- Q.12 What is filtration?
- Q.13 Write formula of ammonia.
- Q.14 What is flash point?
- Q.15 Write another name of petroleum?
- Q.16 Define Dehydration?
- Q.17 Name any two micronutrients.
- Q.18 Write formula of API gravity.
- Q.19 Write full form of ASTM
- Q.20 What is reforming?

SECTION-C

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

- Q.21 Write the difference between setting process and filtration.
- Q.22 Write about bleaching.
- Q.23 Discuss about ammonium nitrate.
- Q.24 Explain micro nutrients with examples.
- Q.25 Discuss saponification process in details.
- Q.26 Difference between Octane number and Cetane number?