

- Q.26 Discuss about the various types of paper products.
 - Q.27 Describe the manufacturing of sugar from sugar cane.
 - Q.28 Draw flow sheet of manufacturing process of starch by maize.
 - Q.29 Explain manufacturing process of beer.
 - Q.30 Explain major engineering problems encountered during manufacturing of Portland cement.
 - Q.31 Write a note on NPK fertilizers.
 - Q.32 Discuss about the method of extracting vegetables oils by mechanical extraction.
 - Q.33 Describe the manufacture of urea.
 - Q.34 Discuss about the triple super phosphate process.
 - Q.35 Discuss about the different types of cement.

SECTION-D

Note : Long Answer type question. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Explain the method of extracting vegetable oils by solvent extraction with neat and clean flow sheet.

Q.37 With flow sheet, describe the manufacture of ethanol by fermentation of molasses and the engineering problems associated with it.

Q.38 Explain contact process in detail with the help of a flow sheet. Also mention major engineering problem encountered in contact process.

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4th Sem / Chemical Engg.
Subject : Chemical Technology

Time : 3 Hrs.

M.M. : 100

SECTION-A

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

- Q.1 Contact process used for manufacturing of _____.
a) Sulphuric acid b) Nitric acid
c) Hydrochloride acid d) None of these

Q.2 Vegetable oils and fats basically differ in their _____.
a) Density ranges
b) Physical state
c) Chemical composition
d) Chemical properties

Q.3 Nitrogen content of urea is about _____ percent.
a) 10 b) 46
c) 80 d) 94

Q.4 Oleum may be represented by the formula
A) H_2SO_4 b) H_2SO_3
C) $\text{H}_2\text{S}_2\text{O}_6$ d) $\text{H}_2\text{S}_2\text{O}_7$

Q.5 Urea is a
a) Nitrogenous fertiliser
b) Potassic fertiliser

- Q.6 c) Phosphatic fertiliser
d) None of these
Soda ash is also called
a) Sodium carbonate b) Sodium hydroxide
c) Sodium bicarbonate d) Sodium oxide
- Q.7 Gypsum is added to clinker during cement manufacture to _____.
a) Decrease the rate of setting of cement
b) Make the cement impervious
c) Bind the particles of calcium silicate
d) To facilitate the formation of colloidal gel
- Q.8 The chemical name of bleaching powder is _____.
a) Calcium hypochlorite
b) Calcium chlorate
c) Calcium perchlorate
d) Calcium chloro hypochlorite
- Q.9 Which of the following tells the amount of free fatty acids present in fat or oil?
a) Acid number
b) Iodine number
c) Saponification number
d) Richert-Meissl number
- Q.10 Alcohol is produced by _____.
a) Oxidation of an aldehyde
b) Hydrolysis of an ether
c) Specification of a fat
d) None of these

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- ### SECTION-B
- Note : Objective type questions. All questions are compulsory. (10x1=10)
- Q.11 Write the name of a method used in chemical process industries for extraction of oil from seeds.
- Q.12 Reaction of phosphate rock with 98% H_2SO_4 produces _____.
- Q.13 Chemical formula of metaphosphoric acid is _____.
- Q.14 What is sugar cane residue called?
- Q.15 Glycerine is produced during production of?
- Q.16 Vegetable ghee is manufactured by _____.
- Q.17 Expand the NPK?
- Q.18 Write any one name of a paper product.
- Q.19 _____ is the most suitable fertiliser for paddy.
- Q.20 _____ catalyst is used in the production of urea from CO_2 and NH_3 .

- ### SECTION-C
- Note : Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 Explain about the piping and instrumentations diagram.
- Q.22 What is difference between soap and detergents?
- Q.23 Draw the schematic representation of various equipment used in chemical process industry. (Any five)
- Q.24 Discuss the manufacturing detergents.
- Q.25 Discuss the chemical recovery of Kraft process.

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