

Q.31 Draw the block diagram for pulp and paper industry.

Q.32 Discuss the classification of cement.

SECTION-D

Note: Long answer type questions. Attempt any three questions out of four questions. 3x10=30

Q.33 Describe about method of extracting vegetable oils by solvent extraction with flow sheet and process description.

Q.34 Define paper. Explain the manufacturing steps for paper making using fourdrinier machine with flow sheet.

Q.35 Describe about manufacturing process of starch from maize and dextrin by starch hydrolysis with flow sheet.

Q.36 Discuss about the manufacturing process of ammonium nitrate with flow sheet, uses and its properties.

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4th Sem. / Chemical Engineering

Subject : Chemical Technology

Time : 3 Hrs.

M.M. : 100

SECTION-A

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

Q.1 Complete the following Reaction.



Q.2 Urea is a _____ Fertiliser.

Q.3 Reaction of phosphate rock with 98% H_2SO_4 produces _____.

Q.4 Nitric acid is produced on commercial scale in a fertiliser plant by _____.

Q.5 $\text{CaH}_4(\text{PO}_4)_2$ is chemical formula of _____.

Q.6 Chemical formula of metaphosphoric acid is _____.

Q.7 pH range of alkali solution is _____.

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(4) 120543/030552/564/
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- Q.8 Chemical formula of gypsum is _____.
- Q.9 _____ catalyst is used in production of urea from CO_2 and NH_3 .
- Q.10 Commercial fertilizers are available mostly in the form of _____.

SECTION-B

Note:Very short answer type questions. Attempt any ten questions out of twelve questions. 10x2=20

- Q.11 What is utility line diagram.
- Q.12 Write the constituents of cement.
- Q.13 What is edible oils, give two examples.
- Q.14 Write down two uses of saponification.
- Q.15 Define Fatty acid.
- Q.16 What is digester.
- Q.17 What is "Mash".
- Q.18 Write the chemical formula of starch.
- Q.19 Which type of solvent is used for extraction of oil from seeds.

(2) 120543/030552/564/
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- Q.20 Define Portland cement.
- Q.21 Write the example for softwood atleast two.
- Q.22 Write name of paper used in daily life.

SECTION-C

Note:Short answer type questions. Attempt any eight questions out of ten questions. 8x5=40

- Q.23 Describe about continuous hydrolysis.
- Q.24 Discuss about different types of additives and their role in soap and detergents.
- Q.25 Draw the equipments layout for reactors.
- Q.26 Describe briefly about mechanical pulping, chemical pulping and semi-chemical pulping.
- Q.27 Write the major engineering problem for manufacturing of urea.
- Q.28 Compare the sulfate and sulfite pulping process.
- Q.29 Describe briefly about carbonation process.
- Q.30 Write major engineering problems for fermentation process.

(3) 120543/030552/564/
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