

## **SECTION-D**

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

Q.23 Write short-note on any two.

- a) Size reduction equipment. (CO1)
- b) Glycerine (CO2)
- c) Ammonium phosphate (CO4)
- d) Portland cement (CO3)

Q.24 Discuss the manufacturing of sugar from sugarcane with the help of flowsheet. List down the Major engineering problems associated with sugar industry. (CO3)

Q.25 Explain the manufacturing of sulfuric acid with the help of flowsheet. List down the Major engineering problems associated with sulphuric acid production. (Co4)

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## **3rd Sem. / Chemical Engineering**

### **Subject : Chemical Technology**

Time : 3 Hrs.

M.M. : 60

## **SECTION-A**

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

- Q.1 Contact process is used for manufacturing of (CO4)
  - a) Nitric acid b) hydrochloric acid
  - c) Sulphuric acid d) None of these
- Q.2 Soda ash is also called (CO4)
  - a) Sodium hydroxide b) Sodium carbonate
  - c) Sodium bicarbonate d) Sodium oxide
- Q.3 Waste liquor resulting from the Kraft pulping process is called (CO2)
  - a) Black Liquor b) White Liquor
  - c) Red Liquor d) Green Liquor
- Q.4 Alcohol is produced by (CO3)
  - a) Oxidation of an aldehyde
  - b) Hydrolysis of an ether
  - c) Hydrolysis of an aldehyde
  - d) Oxidation of an ether

Q.5 Chemical formula of urea is (CO4)

- a) NHCOONH
- b) NH<sub>2</sub>CONH<sub>2</sub>
- c) NHCONH<sub>2</sub>
- d) NH<sub>2</sub>COONH<sub>2</sub>

Q.6 Which of the following is not a suitable solvent for oils and fats ? (CO2)

- a) Benzene
- b) CCl<sub>4</sub>
- c) CHCl<sub>3</sub>
- d) Water

### SECTION-B

**Note:** Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Write full form of NPK. (CO4)

Q.8 Write the name of the process used in pulp and paper Industry for paper manufacturing. (CO2)

Q.9 Which compound is used to give color to the cement? (CO3)

Q.10 List any two size reduction equipment. (CO1)

Q.11 Write the chemical formula of oleum. (CO4)

Q.12 After the extraction of sugar juice, the residue of sugarcane is known as..... (CO3)

### SECTION-C

**Note:** Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Differentiate between soap and detergent. (CO2)

Q.14 Explain the Sulfate process of paper manufacturing with the help of flow sheet. (CO2)

Q.15 Discuss the manufacturing of ammonium nitrate with the help of flow sheet. (CO4)

Q.16 Discuss the major engineering problems associated with cement industry. (CO3)

Q.17 Describe the properties and uses of sulfuric acid. (CO4)

Q.18 Explain about the piping and instrumentation diagram. (CO1)

Q.19 Draw the schematic representation for reactor, filter press, shell and tube Heat exchanger, and pumps used in process flow sheet. (CO1)

Q.20 Discuss the different types of paper products in brief. (CO2)

Q.21 Explain vegetable oil extraction by solvent method. (CO2)

Q.22 Discuss the properties and uses of single super phosphate. (CO4)