

Q.21 Describe carbonation and sulphitation process used in sugar industry. (CO3)

Q.22 Discuss the properties and uses of Urea. (CO4)

### SECTION-D

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

Q.23 Describe the manufacturing process of Ammonia with flow sheet and state its properties and uses. (CO4)

Q.24 Explain the contact process for manufacturing of Sulphuric acid with the help of flowsheet and explain major engineering problems related to it. (CO4)

Q.25 Write short note on any two of following. (CO3)

- Continuous hydrolysis
- Saponification process
- Manufacturing of ethanol
- Fermentation process

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Roll No. ....

**3rd Sem / Chemical**

**Subject : Chemical Technology**

Time : 3 Hrs.

M.M. : 60

### SECTION-A

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

Q.1 Soap does not form leather with. (CO2)

- Soft water
- Hard water
- Distilled water
- None of these

Q.2 Wine is obtained after alcoholic fermentation of (CO3)

- Rice
- Wheat
- Grapes
- Barley

Q.3 Chemical formula of Oleum is (CO4)

- $H_2SO_4$
- $H_2SO_3$
- $H_2S_2O_6$
- $H_2S_2O_7$

Q.4 Vegetable ghee is manufacturing by\_\_\_\_\_.  
(CO2)

- a) Hydrogenation
- b) Oxidation polymerization
- c) Reduction Polymerization
- d) Saponification

Q.5 Urea is a (CO4)

- a) Potassic fertilizer    b) Phosphatic fertilizer
- c) Nitrogenous fertilizer    d) None of these

Q.6 Chemical formula of sucrose is (CO3)

- a)  $C_{12}H_{21}O_{11}$                       b)  $C_{11}H_{20}O_{10}$
- c)  $C_{10}H_{22}O_9$                       d)  $C_{12}H_{22}O_{11}$

### SECTION-B

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

Q.7 Define Pulp. (CO2)

Q.8 Write the formula for ethyl alcohol. (CO3)

Q.9 Name any two types of pump. (CO1)

Q.10 Write full form of NPK. (CO4)

Q.11 Name a method used in chemical process industry for extraction of oil from seed. (CO2)

Q.12 Name the process used for production of Sulphuric acid. (CO4)

### SECTION-C

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

Q.13 Explain piping and instrumentation diagram. (CO1)

Q.14 Differentiate between soap and detergents. (CO2)

Q.15 Explain in brief manufacturing steps for paper making using Fourdrinier machine. (CO2)

Q.16 Explain in brief the properties and used of single super phosphate. (CO4)

Q.17 Discuss the solvent extraction method of extracting vegetable oil. (CO2)

Q.18 Discuss the major engineering problems related to cement industry. (CO4)

Q.19 Discuss about different type of columns in brief. (CO1)

Q.20 Differentiate between mechanical and chemical pulping. (CO2)