

### SECTION-D

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

- Q.23 Discuss the methods of manufacture of diammonium phosphate in detail with the help of neat process flow sheet.
- Q.24 What is use of polymerization in petroleum industry? Describe the hot sulphuric acid polymerization process in detail.
- Q.25 What is composition of cement? Describe the different raw materials used in the manufacture of cement in detail.

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### 3rd Sem. / Chemical (Pulp & Paper)

### Subject : Process Industries

Time : 3 Hrs.

M.M. : 60

### SECTION-A

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

- Q.1 Which of the following unit operation is used for separation of crude oil into different constituents?
- a) evaporation                      b) sublimation  
c) distillation                      d) crystallization
- Q.2 What is the main source of phosphatic fertilizers?
- a) coal                                  b) rock phosphate  
c) natural gas                      d) lime
- Q.3 Residue formed in the petroleum refining is?
- a) diesel oil                          b) ammonia  
c) gas oil                              d) asphalt
- Q.4 Which evaporator is used to concentrate the clarified juice obtained in extraction of sugarcane to produce white crystalline sugar?
- a) open pan evaporator  
b) multiple effect evaporator

- c) vacuum evaporator
- d) agitating film evaporator

Q.5 Which of the following is not a nitrogenous fertilizer?

- a) urea                                      b) ammonium sulphate
- c) calcium carbonate      d) potassium nitrate

Q.6 Which of the following provides the calcareous component required for the manufacture of cement?

- a) lime                                      b) marble
- c) granite                                      d) limestone

### SECTION-B

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

Q.7 Define the bleaching.

Q.8 Write the chemical formula of urea.

Q.9 What is pour point?

Q.10 What is full form of ADU in context of distillation?

Q.11 Write the name of two major petroleum refineries in India.

Q.12 What are clinkers?

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### SECTION-C

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

Q.13 Discuss the crystallization process of sugar industry in brief.

Q.14 Explain need and importance of NPK value in brief.

Q.15 Discuss the different types of fertilizer in brief.

Q.16 What are the properties and uses of single super phosphate?

Q.17 What is flash point? Discuss its significance.

Q.18 Discuss the major engineering problems in the manufacture of cement.

Q.19 What is difference between octane number and cetane number?

Q.20 Describe thermal reforming in brief.

Q.21 Define and discuss viscosity index in brief.

Q.22 Explain the vacuum distillation unit of petroleum refinery in brief.

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