

1st Year / Chemical Engg. (P&P)
Subject : Introduction to Chemical Engineering and
Paper Technology

Time : 3 Hrs.

M.M. : 60

SECTION-A

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

- Q.1 When the lines of action of all the forces of a system act along the same line, this force system is called?
a) Collinear b) Parallel
c) Concurrent d) Non-concurrent
- Q.2 The wood-pulp grinding machine was first commercialized in which of the following countries?
a) France b) Russia
c) Germany d) India
- Q.3 What is value of 1 g cm^{-3} density of a substance in kg m^{-3} ?
a) 10 b) 100
c) 1000 d) 10000
- Q.4 The spent cooking liquor from sulfite pulping is usually called?

- a) White liquor b) Pink liquor
c) Green liquor d) Brown liquor
- Q.5 Which of the following is not an example of unit operation?
- a) Distillation b) Alkylation
c) Absorption d) Humidification
- Q.6 Which of the following is a heteropolysaccharide?
- a) Lignin b) Glucomannan
c) Cellulose d) Hemicelluloses

SECTION-B

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

- Q.7 What is coplanar force system?
- Q.8 What is value of 5 N of force in dyne?
- Q.9 Define the pulp?
- Q.10 What is S.I unit of heat?
- Q.11 Write the name of any one unit operation?
- Q.12 Which particular parameter is used to express the percentage, by oven-dry weight, of pulp obtained from the original wood weight?

SECTION-C

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

- Q.13 Describe different non coplanar force systems in brief.

(2) 180617/030626
/030564B/556

- Q.14 State and explain causticizing efficiency?
- Q.15 How will you select a site for setting up of paper industry, discuss in brief?
- Q.16 What is difference between unit operation and unit process.
- Q.17 Define the kappa number? Discuss its significance?
- Q.18 Describe the important applications of paper?
- Q.19 Discuss the different career opportunities in the field of paper technology?
- Q.20 What is difference between total alkali, active alkali and effective alkali?
- Q.21 Define and discuss triangle law of forces in brief?
- Q.22 What is bleachability? Discuss its importance?

SECTION-D

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

- Q.23 Describe the process for manufacture of cement with the help of process flow diagram depicting the various unit processes and unit operations involved?
- Q.24 Discuss the important physical and chemical characteristics of pulp which are to be considered for making good quality paper?
- Q.25 What is chemical composition of wood? Describe the properties and significance of important constituents of wood?

(3) 180617/030626
/030564B/556