Q.29 Discuss bleaching of pulp by sulphur dioxide in brief?

Q.30 Explain the alkaline extraction used in the bleaching process?

Q.31 How pulp strength is affected by different bleaching chemicals?

Q.32 Discuss the effect of temperature and pH on pulp bleaching?

Q.33 Explain post colour number in brief ?

Q.34 What is bleachability? How it is measured?

Q.35 How will you select a bleaching agent for pulp bleaching?

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Discuss the multi-stage bleaching process with the help of neat flow diagram in detail?

Q.37 Describe the process of pulp bleaching using ozone with the help of neat diagram?

Q.38 Explain the different types of mixers used for carrying out pulp bleaching process?

3rd Sem / Chem. P & P
Subject:- Pulp Bleaching

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 Which one of the following is the major source of colour in the pulp derived from chemical process?

a) Residual water b) Residual lignin
c) Residual acid d) Residual base

Q.2 What is full form of OXE?

a) Oxidizing Element
b) Oxidizing Electron
c) Oxidizing Equivalent
d) Oxidizing Electrovalent

Q.3 In bleach plant operations, pulp predominantly occurs in_____?

a) Single-phase system b) two-phase system
c) three-phase system d) four-phase system

Q.4 Which of the following bleaching chemicals is highly selective?

a) CI_2 b) O_2
c) O_3 d) H_2O_2

Q.5 What is the ISO brightness of a perfect diffuser on absolute scale?

a) 0% b) 25%
c) 75% d) 100%

Q.6 What is chemical formula of hydrogen peroxide?

a) HO_2 b) HO
c) H_2O d) H_2O_2

Q.7 What is brightness level of unbleached kraft pulps?

a) 10% ISO b) 20% ISO
c) 30% ISO d) 40% ISO

Q.8 Which of the following bleaching agents is generally used for prebleach?

a) CI_2 b) ClO_2
c) O_3 d) H_2O_2

Q.9 The chromophore formation due to condensation reactions is known as?

a) Brightness inversion b) Brightness reversion
c) Brightness conversion d) Brightness diversion

Q.10 Pulp bleaching is achieved through?

a) Chemical reaction b) Physical reaction
c) Filtration d) Centrifugation

SECTION-B

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

Q.11 Write name of one bleaching chemical which react as nucleophilic agent?

Q.12 Define the brightness?

Q.13 Why alkali used in pulp bleaching operation ?

Q.14 What is full form of TCF in pulp bleaching?

Q.15 What is main advantage of using chlorine dioxide as bleaching agent?

Q.16 What is the main objective of later stages in the multistage bleaching?

Q.17 Write the name of a bleaching agent used for high consistency bleaching?

Q.18 Which type of reactions is involved in lignin-degarding bleaching?

Q.19 Define the mixing?

Q.20 What is bleaching agent?

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Discuss the significance of pulp bleaching in brief.

Q.22 Define and discuss concept elemental chlorine free bleaching.

Q.23 Explain the concept of pulp brightness in brief.

Q.24 Discuss the lignin content of pulp and its relation with pulp brightness?

Q.25 Explain the atmospheric upflow reactors used in the bleaching setup?

Q.26 Explain the concept of bleaching sequence?

Q.27 Describe the preparation of chlorine dioxide used in the bleaching of pulp ?

Q.28 What are advantages and disadvantages in use of hydrogen peroxide for pulp bleaching?