

SECTION-D

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

- Q.36 Explain in detail the working of multiple effect evaporator with neat sketch.
- Q.37 Describe with the help of flow diagram the working of lime kiln and reburning of lime sludge.
- Q.38 Write short notes on any two of the following:

- 1) Steam economy
- 2) Draft fan
- 3) Green liquor causticizing
- 4) Mud washer

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5th Sem / P & P Sub. : Chemical Recovery

Time : 3Hrs. M.M. : 100

SECTION-A

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

- Q.1 Choose type of recovery.
a) Modulating b) Electrical
c) Oil d) All of the above
- Q.2 What is black liquor?
a) Organic b) Inorganic
c) Gas d) None
- Q.3 Which one is a common term used in pulp and paper industry.
a) Active alkali b) Effective alkali
c) Soda loss d) All of the above
- Q.4 Select the apparatus used to measure the concentration of black liquor.
a) Degree Twaddle b) pH meter
c) H-factor d) None
- Q.5 Write the formula of caustic soda.
a) Na_2S b) NaOH
c) Na_2SO_4 d) Na_2CO_3

- Q.6 What are the concentration range of heavy black liquor?
 a) 44-55% b) 55-65%
 c) 65-75% d) 75-80%
- Q.7 Where black liquor burn
 a) Evaporator b) Furnace
 c) Lime Kiln d) Digester
- Q.8 Choose main constituent of green liquor
 a) Na_2CO_3 b) NaOH
 c) Na_2SO_4 d) None
- Q.9 What is the Ph of black liquor
 a) 10.8 b) 11.8
 c) 12.8 d) 13.8
- Q.10 Where white liquor is used?
 a) Digester b) Furnace
 c) Evaporator d) None

SECTION-B

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

- Q.11 What is strong black liquor?
 Q.12 Expand BPR.
 Q.13 Name any one type of Evaporator.
 Q.14 What is the function of venturi meter?
 Q.15 What is active alkali?
 Q.16 Expand M.E-E
 Q.17 Write any one physical property of black liquor.

- Q.18 What is the source of silica in black liquor?
 Q.19 Why cascade evaporator is used?
 Q.20 What is lime mud?

SECTION-C

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 Write note on physical Characteristics of soda black liquor.
 Q.22 What is black liquor recovery?
 Q.23 Define black liquid oxidizer.
 Q.24 Express sulfidity and causticity.
 Q.25 List various standard terms used in pulp and paper industry.
 Q.26 Draw neat sketch of any one type of single effect evaporator.
 Q.27 What are the reaction involved during inclination of black liquor?
 Q.28 Differentiate soda and sulphate black liquor.
 Q.29 Write the function of drag washer.
 Q.30 Explain the function of recovery furnace.
 Q.31 Define the direct contact evaporator.
 Q.32 What is the function of air preheater?
 Q.33 Write a note on ESP.
 Q.34 Convert 40 gsm of NaOH as Na_2O into NaOH as such.
 Q.35 What is the soda loss?