

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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Roll No.

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 furnance.
- 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?