Q.28 Define causticising efficiency.

Q.29 Define thermal conductivity of black liquor.

Q.30 Convert 45g of NaOh as such into NaOH as Na$_2$O.

Q.31 What is lime mud washing process?

Q.32 Mention any five physical properties of soda black liquor.

Q.33 Write functions of recovery furnace.

Q.34 Explain the term reduction efficiency.

Q.35 Define the direct contact evaporator.

SECTION-D

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

Q.36 Explain the constructional and working details of JMW recovery furnace.

Q.37 List various evaporators used in recovery furnace of pulp & paper industry. Explain any one with neat sketch.

Q.38 Write short notes on any two of the following:

a) Reburning of lime sludge

b) Mud Washer

c) Chemical composition of soda black liquor

d) Draft fans

5th Sem./ Chemical (P & P)
Subject:- Chemical Recovery

Time : 3Hrs.   M.M. : 100

SECTION-A

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

Q.1 What is the unit of density?

a) Kg x M   b) M / kg

c) kg/ M^3 d) M^3 / kg

Q.2 % capacity is _____?

a) Na$_2$S/AA x 100   b) AA/ Na$_2$S x 100

c) NaOH / AA x 100   d) None

Q.3 Choose temperature for calcinations of lime stone in line kiln.

a) 200°C   b) 500°C

c) 700°C   d) 1000°C

Q.4 Name the term used in sulfidity.

a) pH   b) CaCO$_3$

c) Na$_2$S   d) None

Q.5 Where white liquor is used ?

a) Digester   b) Evaporator

c) furnace   d) Head box

Q.6 Can we burn black liquor ?

a) Yes   b) No

c) None

Q.7 Choose type of evaporator .

a) Drum   b) Longitudinal

c) Horizontal   d) Open Pan

Q.8 Expand BPR.

a) Base point rise   b) Big point rise

c) Boiling point rise   d) None

Q.9 What is the function of lime kiln?

a) Convert $CaCo_3$ to CaO

b) Convert $CaCo_3$ to $Ca(OH)_2$

c) Convert CO_2 to CaO

d) None

Q.10 Choose inorganic content.

a) Titanium dioxide   b) Black Liquor

c) White Liquor   d) None

SECTION-B

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

Q.11 What is strong black liquor?

Q.12 What is Soda loss?

Q.13 Name any one type of evaporator.

Q.14 Write any one function of Venturi scrubber.

Q.15 Why incineration of black liquor is carried out?

Q.16 Name any one organic content.

Q.17 By which process temporary hardness of water is removed?

Q.18 Write any physical property of black liquor.

Q.19 What is the source of silica in black liquor?

Q.20 Write any one use of lime mud.

SECTION-C

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

Q.21 Write short note on black liquor recovery.

Q.22 Define black liquor oxidizers.

Q.23 Draw a neat sketch of cyclone evaporator.

Q.24 What are the reactions in causticizing of green liquor.

Q.25 Define lime mud washing process.

Q.26 Define total cycle of causticizing process.

Q.27 Draw a neat sketch of M.E.E.