Q.26 Differentiate between drop wise and film wise condensation.

Q.27 What is difference between Single Effect Evaporator and Multiple Effect Evaporator?

Q.28 Discuss about the flow pattern in heat exchanger.

Q.29 What is Heat exchanger. Write a note on any one Heat exchanger.

Q.30 Explain the concept of boiling.

Q.31 Discuss about the Lanka Shire boiler.

Q.32 Write five differences between fire tube and water tube boilers.

Q.33 Explain working of open pan evaporator with diagram.

Q.34 How can you increase the fuel economy in the furnace?

Q.35 Discuss about the muffle furnace.

Section-D

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

Q.36 Drive an expression for LMTD in case of cocurrent flow by giving suitable assumptions.

Q.37 Define evaporator. Explain construction and working of long tube evaporator with neat sketch, advantages and disadvantages.

Q.38 Explain construction and working details of cupola furnace. Also write its advantages and disadvantages.

Roll No. .....

4th Sem. Branch: Chemical Engineering, P&P
Sub : Heat Transfer-II

Time : 3 Hrs. M.M. : 100

SECTION-A

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

Q.1 Condensation refers to a change from the

a) Solid to a liquid phase

b) Vapor to a liquid phase

c) Liquid to a solid phase

d) Liquid to a vapor phase

Q.2 Heat exchangers are classified into how many categories?

a) 1 b) 2

c) 3 d) 4

Q.3 The capacity of an evaporator depends upon the temperature of the feed solution.

a) True b) False

Q.4 Long tube evaporators are usually_____evaporators.

a) Natural convection b) Forced convection

c) Nucleate Boiling d) None of these

Q.5 Drop wise condensation usually occurs on

a) Oily surface b) Glazed surface

c) Smooth surface d) Coated surface

Q.6 Heat transfer deals with

a) Work transfer b) Temperature transfer

c) Energy transfer d) None

Q.7 LMTD in case of counter flow as compared to parallel flow heat exchanger is

a) Higher b) Lower

c) Remain same d) None of these

Q.8 Joule sec is the unit of

a) Work Transfer

b) Planck's constant

c) Universal gas constant

d) None

Q.9 Which one of the following is not a suitable application of evaporators?

a) Refrigeration b) Cooling

c) Heating d) Crystallisation

Q.10 Which type of boiling occurs in steam boilers employing natural convection?

a) Forced convection b) Pool

c) Local d) Saturated

Section-B

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

Q.11 Name any one type of fins.

Q.12 Write unit of fouling factor.

Q.13 Give one example of boiling.

Q.14 Write S.I. Unit of heat transfer rate.

Q.15 Write any one application of furnace.

Q.16 Name the type of flow in the heat exchanger which gives higher value of LMTD.

Q.17 Define overall heat transfer coefficient.

Q.18 What is diphenyl.

Q.19 Name the parameter which account for scaling in the heat transfer equipment.

Q.20 Define capacity of an evaporator.

Section-C

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

Q.21 Write advantages of using baffles in the heat exchangers.

Q.22 What is difference between evaporator and condenser?

Q.23 Explain in brief about boiling point elevation.

Q.24 Describe the working of contact condenser in detail.

Q25 Discuss the forced circulation used in evaporators.