

- Q.33 Explain the concept of multiple effect evaporator.
 Q.34 Give the classification of furnace based on fuel used.
 Q.35 Describe muffle furnace with neat sketch.

SECTION-D

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

- Q.36 What do you mean by LMTD? Determine LMTD for parallel flow with suitable assumption.
 Q.37 List various feeding arrangement of liquor in evaporator. Explain any one with neat sketch.
 Q.38 Write short note any two of the following :
 a) Plate type heat exchanger
 b) Contact condenser
 c) Evaporation capacity
 d) Cupola furnace

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4th Sem.
Branch : Chem, P & P
Subject : Heat Transfer II

Time : 3 Hrs.

M.M. : 100

SECTION-A

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

- Q.1 How many types of modes of heat transfer?
 a) 1 b) 2
 c) 3 d) 4
- Q.2 With evaporation the boiling point of solution_____.
 a) Increase b) Decrease
 c) Become half d) Remain same
- Q.3 In 1-2 shell & tube heat exchanger what 1 represents?
 a) Shell b) Tube
 c) Shell & Tube d) None
- Q.4 What is the unit of LMTD?
 a) Cem b) °C
 c) Decibel d) Joule
- Q.5 Choose type of condenser.
 a) Tube b) Pitch
 c) Contact d) Lanka Shire

- Q.6 _____ is a safety device used to protect the boiler when the water level falls below the minimum level in boiler.
- a) Fusible Plug b) Safety Valve
c) Blow off cock d) Water level indicator
- Q.7 Which one of the following is not a suitable application of evaporator?
- a) Heating b) Cooling
c) Refrigeration d) Crystallization
- Q.8 Choose the type of evaporator
- a) Falling film b) Forced Circulation
c) Open pan d) All of the above
- Q.9 Which of the following variable does not affect the furnace capacity?
- a) Size of the furnace b) Gas velocity
c) Both A & B d) None
- Q.10 Which of the following is a water tube boiler?
- a) Lamont boiler b) Stirling boiler
c) Cornish boiler d) All of the above

SECTION-B

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

- Q.11 Rate of evaporation _____ as temperature increases. (Increase / Decrease)
- Q.12 Condensation is a _____ process. (Endothermic / Exothermic)

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- Q.13 The value of correlation factor can be equal to 1 in most cases of operation (True / False)
- Q.14 Name any one type of heat exchanger.
- Q.15 What is Q in $Q = mc_p \Delta t$?
- Q.16 When we use forced circulation evaporator?
- Q.17 Why baffles are used in heat exchanger?
- Q.18 What is the economy of single effect evaporator?
- Q.19 Name any one material used for insulation.
- Q.20 Mention any one type of coal fired furnace.

SECTION-C

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

- Q.21 Define Condensation.
- Q.22 What are the advantages on film wise condensation over dropwise condensation.
- Q.23 Explain boiling point elevation.
- Q.24 Differentiate between co-current & counter current flow.
- Q.25 Draw neat sketch of shell & tube heat exchanger.
- Q.26 Define fouling factor.
- Q.27 Write a note on extended surface equipment.
- Q.28 What are the uses of condensers?
- Q.29 Describe shell & tube condenser.
- Q.30 Mention any five points for water tube boiler.
- Q.31 What are the requirements of good boiler?
- Q.32 Draw neat sketch of vertical long tube evaporator.

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