Q.27 Explain the counter current and cross flow arrangement in a heat exchanger with the help of a neat diagram?

Q.28 Define furnace? Discuss their importance in chemical industry?

Q.29 Explain any five parts of Lancashire Boiler in brief?

Q.30 Discuss concept of elevation in boiling point in brief?

Q.31 Describe the classification of furnaces on the basis of type of fuel used?

Q.32 Write advantages and disadvantages of falling film evaporator.

Q.33 Explain the plate type heat exchanger in brief?

Q.34 Describe the working of open pan evaporator?

Q.35 Explain the construction of cupola furnace in brief?

SECTION-D

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

Q.36 What is evaporator economy? Discuss the different factors affecting the evaporator economy in detail?

Q.37 Describe the construction, working and advantages of shell and tube heat exchanger in detail with the help of neat diagram?

Q.38 Discuss the construction and working of Babcock Wilcox boiler in detail with the help of neat schematic diagram?

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4th Sem / 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 In condensation operation, the temperature becomes constant at which point?

a) Melting point b) Boiling point
c) Freezing point d) Condensation point

Q.2 Inspite of large heat transfer coefficients in boiling liquids, fins are used advantageously when the entire surface is exposed to?

a) Nucleate boiling b) Film boiling
c) Transition boiling d) Constant boiling

Q.3 Which of the following involves appreciable amount of heat transfer by all the three modes i.e. Conduction, convection and radiation?

a) Insulated pipes carrying hot water
b) Refrigerator freezer
c) Boiler furnace
d) Condensation of steam in a condenser

Q.4 Lancashire is a type of?

a) Evaporator b) Furnace
c) Boiler d) Condenser

Q.5 Which is the reverse process for boiling?

a) Evaporation b) Melting

c) Condensation d) Fusion

Q.6 The evaporator capacity is proportional to the rate of?

a) Mass transfer b) Momentum transfer

c) Heat transfer d) None of the above

Q.7 Which type of flow in a heat exchanger gives highest overall heat transfer coefficient?

a) Counter current flow b) Parallel flow

c) Steady flow d) Cross flow

Q.8 Condensation of steam on an oily surface is?

a) Filmwise b) Dropwise

c) Filmwise & dropwise d) Note possible

Q.9 Baffles are provided in heat exchangers to?

a) Increase pressure drop

b) Decrease pressure drop

c) Increase rate of heat transfer

d) Decrease vibrations

Q.10 The chief factor influencing the economy of an evaporator system is?

a) Number of tubes b) Number of effects

c) Number of baffles d) Number of fins

SECTION-B

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

Q.11 Name the type of condensation in which condensate forms continuous layer of liquid over the heat transfer surface?

Q.12 Which type of condensation is promoted by oily surface?

Q.13 Define individual heat transfer coefficient?

Q.14 Write the name of any one type of heat exchanger?

Q.15 Write full form of LMTD?

Q.16 Write the name of a water tube boiler?

Q.17 Define Boiler?

Q.18 Name the side through which corrosive liquid is generally passed in a shell and tube heat exchanger?

Q.19 Which particular parameter account for the scaling in the heat transfer equipment?

Q.20 Write S.I. Unit of overall heat transfer coefficient?

SECTION-C

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

Q.21 Describe construction of a double pipe heat exchanger with the help of a neat diagram?

Q.22 What is difference between dropwise condensation and filmwise condensation?

Q.23 Discuss in brief the different types of feeding arrangements in evaporators?

Q.24 Explain the purpose of providing fins in the heat transfer equipment?

Q.25 Explain evaporation capacity in brief?

Q.26 Discuss in brief the advantages of using baffles in heat exchangers?