Q.27 Draw neat & clean Sketch of 1-2 shell & tube heat exchanger.

Q.28 Draw the diagram of contact condenser.

Q.29 Mention any five uses of heat exchanger.

Q.30 Discuss about the nestler boiler.

Q.31 Describe briefly about the multiple effect evaporator.

Q.32 Explain about the long tube vertical evaporator.

Q.33 Discuss about the muffle furnace .

Q.34 Discuss about the film wise condensation.

Q.35 Explain about the extended surface equipment.

SECTION-D

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

Q.36 Explain the construction and working of counter current double pipe heat exchanger with neat and clean diagram.

Q.37 Explain construction and working details of cupola furnace. Also write its advantages and disadvantages

Q.38 Write short note on the following :

a) Heat transfer medium

b) Roughness of surface and their effect

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4th Sem / Chemical Engineering / Pulp & Paper
Subject:- Heat Transfer - II

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 Boiling 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 In which type of boiling the fluid motion is induced by external means?

a) Pool b) Local

c) Forced convection d) Subcooled

Q.3 Condensation process is very common in (i) Boilers (ii) Condensers (iii) Evaporators Identify the correct statements

a) i and ii b) ii and iii

c) i, ii and iii d) i and iii

Q.4 During film condensation, liquid formed

a) Wets the solid surface

b) Does not wet the solid surface

c) Can't say
d) None of these

Q.5 A heat exchanger transfers heat from one fluid to another
a) Solid b) Fluid
c) Solid & Fluid d) None

Q.6 Latent heat is transferred in a heat exchanger during
a) Heating b) Cooling
c) Phase change d) None

Q.7 In a condenser, the temperature of the cold fluid is
a) Decreasing b) Increasing
c) Remains constant d) None

Q.8 The overall heat transfer coefficient in a heat exchanger is
a) Increasing b) Decreasing
c) No change d) None

Q.9 Which one of the following fluid cannot be placed in the shell side?
a) Condensing Vapour
b) Fluid with very high temperature
c) Fluid with very high pressure
d) Fluid with high viscosity

Q.10 Overall heat transfer coefficient is associated with
a) Conduction and radiation
b) Conduction and convection
c) Radiation and convection
d) None

SECTION-B

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

Q.11 Representation of 1-2 in shell and tube Heat exchanger is _____.

Q.12 'h' stands for_____ in heat-transfer.

Q.13 Expand LMTD.

Q.14 Write the unit of overall heat transfer constant.

Q.15 What is the S.I. unit of temperature.

Q.16 Write one example of oil fired furnace.

Q.17 Falling film evaporators are best suited for_____.

Q.18 Write one advantage of Lanka shire boiler.

Q.19 The number of kg vaporised per kg of steam fed to the evaporator is defined as _____.

Q.20 In a heat exchanger, floating head is provided to _____.

SECTION-C

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

Q.21 Discuss the concept of condensation.

Q.22 Describe briefly about boiling.

Q.23 Explain about the LMTD for co-current flow.

Q.24 Draw neat & clean sketch of plate types heat exchanger with construction details.

Q.25 Explain about the heat transfer medium.

Q.26 Discuss the concept of fouling factor.