Q.24 Describe about physical significance of dimensionless number.

Q.25 Writes about the open pan evaporator.

Q.26 Explain overall heat transfer coefficient.

Q.27 Difference between boiling, condensation and evaporation

Q.28 Write about Emissive power.

Q.29 Discuss Planck's law, Krichhoff's law, StefenBoltman law.

Q.30 Classifies heat exchanger.

Q.31 Difference between concurrent flow and countercurrent flow.

Q.32 Discuss the solar radiation.

Q.33 Difference between Natural and forced convection.

Q.34 Write about mechanism of heat transfer?

Q.35 List physical properties of insulating materials.

SECTION-D

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

Q.36 Explain one dimensional steady state heat conduction through plain wall.

Q.37 Describe the critical thickness of insulation for cylinder with assumption.

Q.38 Write short note on any three;

1. Reynold number
2. Scale formulation
3. Wein's displacement law
4. Radiation shield and view factor

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5th Sem / Chemical Engg (P&P)
Subject:- Heat Transfer-I

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 What is heat transfer?

a) Flow of thermal energy from low-temperature reservoir to high-temperature reservoir

b) Flow of energy in the form of heat from high temperature reservoir to low temperature

reservoir

c) Flow of thermal energy irrespective of reservoir temperature

d) None of the above

Q.2 Which of the following is the rate of heat transfer unit?

a) Watt b) Pascal

c) Joule d) Newton

Q.3 On which of the following does convective heat transfer coefficient doesn't depend?

a) Orientation of solid surface

b) Time

c) Surface area

d) Space

Q.4 Heat transfer takes place according to which of the following law?

a) Newton's second law of motion
b) First law of thermodynamics
c) Newton's law of cooling
d) Second law of thermodynamics

Q.5 In liquids and gases, heat transmission is primarily caused by
a) Convection
b) Radiation
c) Conduction
d) Conduction as well as Convection

Q.6 In heat exchangers, degree of approach is defined as the difference between temperatures of
a) Cold water inlet and outlet
b) Hot medium inlet and outlet
c) Hot medium outlet and cold water inlet
d) Hot medium outlet and cold water outlet

Q.7 Fourier's law of heat----------
a) Convection
b) Radiation
c) Conduction
d) Conduction as well as convection

Q.8 Reynolds number is
a) Dimensionless number
b) Number
c) Both A & B
d) None of above

Q.9 The heat transfer generally recognizes distinct modes of heat transfer. How many modes are there?
a) One b) Two

c) Three d) Four

Q.10 The rate equation used to describe the mechanism of convection is called----------
a) Fourier law
b) Wein's displacement law
c) Krichhoff's law
d) Newton's law of cooling

SECTION-B

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

Q.11 Write full form of LMTD?
Q.12 What is insulation?
Q.13 Write formula for Fourier law.
Q.14 Write one equipment used for heat exchange?
Q.15 What is free convection?
Q.16 Write Stanton No.
Q.17 Name any one heat transfer process.
Q.18 Define grey body?
Q.19 Write Krichhoff's law?
Q.20 What is conduction?

SECTION-C

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

Q.21 Difference between steady heat transfer and unsteady heat transfer.
Q.22 Write about mode of heat transfer.
Q.23 Discuss about reflection, absorption and transmission of radiation?