Q.25 What is absorption and emission in a gaseous medium?

Q.26 Write a note on dimensional analysis.

Q.27 Explain wein's displacement law with its limitations.

Q.28 Define kirchoff's law.

Q.29 Write radiative heat exchange between grey bodies.

Q.30 Mention the effects of thermal conductivity on solids.

Q.31 Define natural convection with example.

Q.32 Write the significance of grassh of number.

Q.33 What are the requirements of condenser?

Q.34 Draw a neat sketch of contact condenser.

Q.35 What is empirical correlation for free and forced convection?

SECTION-D

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

Q.36 Derive an expression for heat conduction through a cylinder surface.

Q.37 Distinguish between the conduction, convention and radiation modes of heat transfer.

Q.38 Explain with neat diagram, the construction, working, advantages and disadvantages of shell and tube condenser.

3rd Sem / Chem, 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 the SI unit of heat flux?

a) Wm^2 b) Watt

c) W/m^2 d) m^2

Q.2 Boiling phenomenon is known to occurs in_____ forms.

a) 1 b) 2

c) 3 d) 4

Q.3 Reynolds number is ratio of_____ to_____.

a) Insulation, conduction

b) Internal, viscous forces

c) Temp, resistance

d) Boiling condensation

Q.4 Mark the matter with least value of thermal conductivity

a) Air b) Water

c) Ash d) Glass

Q.5 Condensation refers to change from_____ to_____ phase.

a) Solid, liquid b) Vapor, liquid

c) Liquid, solid d) Liquid , vapor

Q.6 Materials having very low thermal conductivity are called as_____.

a) Boilers b) Conductors

c) Insulators d) None

Q.7 Can Nusselt number be less then 1?

a) Yes b) No

Q.8 Conduction plus fluid flow in motion is known as_____.

a) Radiation b) Conduction

c) Convection d) Evaporation

Q.9 Glass wool is used for_____.

a) Insulation b) Conduction

c) Convection d) Radiation

Q.10 Heat energy received by the earth from sun is due to _____.

a) Convection b) Radiation

c) Reflection of light d) None

SECTION-B

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

Q.11 Give the equation for prandtl Number.

Q.12 What is the SI unit of thermal conductivity?

Q.13 What is insulation?

Q.14 What is emissive power?

Q.15 Write the basic equation for the rate of heat transfer by convection.

Q.16 Name two types of condenser.

Q.17 How is heat transferred by radiation?

Q.18 What is the poorest conductor of heat?

Q.19 Define unsteady state.

Q.20 What is forced convection?

SECTION-C

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

Q.21 Write the factors affecting connective heat transfer.

Q.22 Mention the importance of critical thickness of insulation.

Q.23 Differentiate between filmwise condensation and drop wise condensation.

Q.24 Derive the basic equation for conductive heat flow through a composite well.