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- Q.5 What is the net energy effect at the refractory in muffle furnace?
- a) zero b) positive
c) negative d) cannot be predicted
- Q.6 Which of the following is not a type of heat exchanger?
- a) Double pipe b) Shell and tube
c) Blake jaw d) Plate and frame
- Q.7 In a pulverized fuel fired large power boiler, heat transfer from the burning fuel to the walls of the furnace is?
- a) by conduction only
b) by convection only
c) by conduction & convection
d) predominantly by radiation
- Q.8 Multiple pass heat exchangers are used to?
- a) increase pressure drop
b) decrease pressure drop
c) increase rate of heat transfer
d) decrease vibrations
- Q.9 The usual method of feeding a multiple-effect evaporator is?
- a) forward feed b) backward feed
c) parallel feed d) mixed feed
- Q.10 Scale, dirt, and other solid deposits form on one or both sides of the tubes in a heat exchanger in measured as a ?
- a) fouling factor b) cost factor
c) energy factor d) material factor

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SECTION-B

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

- Q.11 Name a process in which heat transfer is accompanied by phase change?
- Q.12 Define the condensation?
- Q.13 Write S.I. unit of heat transfer rate?
- Q.14 Write any one type of heat transfer equipment which brings about phase change in one of the process fluid?
- Q.15 Write name of any one heat transfer medium used in the chemical process industry for carrying out heat transfer operations?
- Q.16 Name the type of condensation occurring when steam condenses on oily surface?
- Q.17 What are fins?
- Q.18 Name the type of flow in the heat exchanger which gives highest value of LMTD?
- Q.19 Write name of any one type of evaporator used in chemical industry?
- Q.20 What are baffles?

SECTION-C

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

- Q.21 Discuss the parallel flow arrangement for the heat exchanger with the help of neat diagram?
- Q.22 Discuss the concept of boiling in brief?
- Q.23 What is difference between evaporator and condenser?
- Q.24 Describe working of a double pipe heat exchanger with the help of a neat diagram in brief?

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