

- Q.24 Discuss principle of mass transfer.
- Q.25 Describe the working principle of a piston pump with a well labeled diagram?
- Q.26 Define the terms pasteurizer and sterilization.
- Q.27 Explain the terms laminar flow and turbulent flow.
- Q.28 Describe the working principle of kiln dryer with a well labeled diagram?
- Q.29 Write a note on general selection consideration of boilers.
- Q.30 Describe the working principle of scraped surface heat exchanger with a well labeled diagram?
- Q.31 Describe the working principle of plate type heat exchanger with a well labeled diagram?
- Q.32 Draw a neat and clean diagram of the freeze dryer and give its working principle .
- Q.33 Describe the working principle of a water tube boiler with a well labeled diagram?
- Q.34 Define manometer. Explain a simple U tube manometer.
- Q.35 Explain the working principle of rising film evaporator.

SECTION-D

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

- Q.36 Define heat. Explain modes of heat transfer.
- Q.37 Describe the working principle of spray with a well labeled diagram? Also give its advantages and disadvantages.
- Q.38 Define a psychrometric chart and also draw a line showing dry bulb Temperature, wet bulb temperature, relative humidity and specific humidity line.

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4th Sem / Branch : Food Technology
Subject:- Principles of Food Engineering

Time : 3Hrs.

M.M. : 100

SECTION-A

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

- Q.1 Which of the following is the base unit?
- a) Meter
 - b) Kilogram
 - c) Second
 - d) All of the above
- Q.2 Which of the following is an essential part of a boiler?
- a) Safety valve
 - b) Pressure gauge
 - c) Both a & b
 - d) None of the above
- Q.3 The _____ is defined as the ratio of density of the substance to the density of water at a specified temperature.
- a) Porosity
 - b) Specific Heat
 - c) Density
 - d) None of the above
- Q.4 Which one of the following is not a type of evaporator?
- a) Forced Circulation
 - b) Natural Circulation
 - c) Both a & b
 - d) Gasketed evaporators

- Q.5 Which of the following is the type of positive displacement pump?
 a) Propeller b) Centrifugal
 c) Both a & b d) None of the above
- Q.6 Which of the following is the mode of heat transfer?
 a) Conduction b) Convection
 c) Radiation d) All of the above
- Q.7 The moisture content lines in the psychrometric chart are also called as.
 a) Relative humidity lines
 b) Specific humidity lines
 c) Both a & b
 d) None of the above
- Q.8 Which of the following is not an example of recuperator type heat exchanger?
 a) Automobile radiators
 b) Condensers
 c) Oil heaters for an airplane
 d) Chemical factories
- Q.9 Pressure of the fluid is measured by
 a) Conduction b) Lactometer
 c) Thermometer d) Manometer
- Q.10 _____ is not a type of heat exchanger flow.
 a) Counter flow type b) Parallel flow type
 c) Consecutive flow d) Cross flow type

SECTION-B

- Note:** Objective type questions. All questions are compulsory. (10x1=10)
- Q.11 _____ a type of water tube boiler? (Babcock and Wilcox/Locomotive)
- Q.12 A compressible fluid is one for which density changes with change in temperature, pressure or velocity. (True/False)
- Q.13 _____ is the transfer of heat by electromagnetic waves. (Conduction/Radiation)
- Q.14 Give the name of any two types of evaporator.
- Q.15 _____ is defined as an object's mass per unit volume. (Density/Specific gravity)
- Q.16 The SI unit for the thermal conductivity is _____ (kg/m^3 or $\text{W}\cdot\text{m}^{-1}\text{K}^{-1}$)
- Q.17 _____ is the percentage of air between the particles compared to a unit volume of particles. (Porosity/Specific Heat)
- Q.18 An empty space with no particles and no pressure is called a _____. (vacuum/Porosity)
- Q.19 What is the full form of psi?
- Q.20 Both Specific Gravity and _____ and dimensionless quantities. (Reynolds no/Specific heat)

SECTION-C

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 Define the terms thermal conductivity and specific heat
- Q.22 Write the benefits and needs of periodical maintenance.
- Q.23 Give the classification of dryers.