Q.24 Define mixing and elaborate on the importance of achieving homogeneity.

Q.25 Explain the working principles of three types of screens.

Q.26 Discuss different types of separators.

Q.27 Write the different types of extraction methods.

Q.28 Explain the process of ice formation.

Q.29 Discuss different types of filters.

Q.30 Explain theories of filtration.

Q.31 Explain the concept of energy consumption in size reduction processes.

Q.32 How do particle size and density affect the effectiveness of sedimentation processes?

Q.33 Enlist size reduction equipment and explain.

Q.34 Discuss the factors that influence the rate of evaporation.

Q.35 Differences between batch mixing and continuous mixing, and its benefits and drawbacks.

SECTION-D

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

Q.36 Explain the application of the extraction process in food industries.

Q.37 Explain the types of membrane separation process.

Q.38 Explain types of crystallizers used in food industries.

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3rd Sem / Branch : Food Technology
Subject:- Unit Operation in food Processing Power of food Engg.

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 For the flow of the fluid we need differences in.

a) Pressure b) Concentration
c) Moisture d) Temperature

Q.2 Magnetic sieving can be used for separating.

a) Rice from wheat b) Iron from rice
c) Water from sand d) Ice from water

Q.3 Electrostatic separator makes use of the difference in.

a) Moisture content b) Electrical properties
c) Magnetic properties d) Densities

Q.4 What is the primary principle behind centrifugation as a mechanical separation method?

a) Difference in boiling points
b) Difference in particle size
c) Difference in density
d) Difference in solubility

Q.5 In mechanical separation processes, what does the term "sedimentation" refer to?

a) Heating a mixture to separate components
b) The movement of particles under the influence of gravity
c) Mixing two substances to form a homogenous mixture
d) Changing the state of matter of a substance

Q.6 Which of the following is NOT a method of mixing?

a) Filtration b) Stirring
c) Shaking d) Agitation

Q.7 Why is proper mixing important in various industries?

a) It reduces the need for quality control
b) It ensures an even distribution of temperature only
c) It helps in achieving consistent product quality and properties
d) It eliminates the need for packaging

Q.8 Which of the following is NOT a type of size reduction equipment?

a) Crusher b) Centrifuge
c) Grinder d) Hammer mill

Q.9 Which size reduction method is suitable for reducing the particle size of heat-sensitive materials?

a) Hammer milling
b) Roller milling
c) Cryogenic grinding
d) Ultrasonic dispersion

Q.10 What is evaporation?

a) The process of liquid turning into a gas
b) The process of gas turning into a liquid
c) The process of solid turning into a gas
d) The process of gas turning into a solid

SECTION-B

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

Q.11 Define Agitation.

Q.12 What is a homogenous mixture?

Q.13 Define Hammer milling.

Q.14 Define the Saturation.

Q.15 What is the main objective of size reduction in industrial processes?

Q.16 What is the key purpose of distillation?

Q.17 Define the decantation process.

Q.18 What is the term ultra-filtration?

Q.19 Why are sieves employed in size reduction procedures?

Q.20 Write the equation of Kick's law.

SECTION-C

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

Q.21 Discuss various terminology used in filtration.

Q.22 Explain factors affecting the efficiency of screens.

Q.23 Differentiate extraction and distillation process.