

KATHMANDU UNIVERSITY
End Semester Examination
May/June, 2022

Marks Scored:

Level : B.E.

Year : III

Exam Roll No. :

Time: 30 mins.

Course : CHEG 310

Semester : II

F. M. : 10

Registration No.:

Date :

SECTION "A"

[20 Q. × 0.5 = 10 marks]

Encircle the most appropriate option.

1. A material is termed bone dry if the moisture content is reduced to
 - a. EMC (equilibrium moisture content)
 - b. Zero moisture
 - c. CFMC (critical free moisture content)
 - d. Total moisture content

1. Freeze drying works on the principle of
 - a. Evaporation of water
 - b. Sublimation of water from ice phase to gas phase
 - c. Liquefaction of ice to water
 - d. Heating at the freezing temperature of water

2. Following is not the mechanism of size reduction
 - a. Impact & attrition
 - b. Cutting
 - c. Bruising
 - d. Elutriation

4. Clarification is the term used when the solid content of the product
 - a. Doesn't exceed 1%
 - b. Doesn't exceed 5%
 - c. Doesn't exceed 10%
 - d. Is of any solid content

5. Trough is stationary in..... type of mixer.
 - a. Barrel mixer
 - b. Ribbon mixer
 - c. Double cone blender
 - d. Zigzag mixer

6. In solid-solid mixing, which mixing equipment produce tumbling as a mechanism?
 - a. Fluidized mixer
 - b. Sigma blender
 - c. Ribbon mixer
 - d. V-cone blender

7. Vortex formation during liquid mixing operation in a circular tank is due to
 - a. Selection of smaller impeller
 - b. Selection of large impeller
 - c. High rotational speed of impeller
 - d. Slow rotational speed of impeller

8. In cyclone separator, the separation depends on
 - a. Size & density
 - b. Shape & density
 - c. Shape & surface area
 - d. Size & surface texture

9. In cyclone separator, centrifugal force for circulation of air is supplied by one of the following ways
 - a. Applying vacuum
 - b. Atomizing air
 - c. Pumping
 - d. Rotating blades
10. Which term is used to describe the material that remains on the screening surface?
 - a. Medium size material
 - b. Over size material
 - c. Under size material
 - d. Minus material
11. Which equipment is used for separation of solid suspended in fluid?
 - a. Sieve shaker
 - b. Flow meter
 - c. Cyclone separator
 - d. Vertex screen
12. Separation of liquid by distillation is based on one of the following principles.
 - a. Boiling point
 - b. Miscibility
 - c. Flashing point
 - d. Vapour pressure
13. Which is the principle difference (in the properties) that influences centrifugation?
 - a. Densities
 - b. Particle sizes
 - c. Interfacial tensions
 - d. Viscosities
14. Calendria consist the number of
 - a. Baffles with 90% cuts
 - b. Tabular surface
 - c. Outlets
 - d. Jackets
15. Which of the following factor is more important in clarification process?
 - a. Depth of the sand media
 - b. Pore size of filter media
 - c. Surface area of rotating filter
 - d. Temperature of infeed slurry
16. Filter aids are mainly used when
 - a. Solids are required as product
 - b. Solids & liquid both are required as product
 - c. Filter medium is not available
 - d. Liquid is required as product
17. Cellulose membrane filter is an example for.....
 - a. Cake filtration
 - b. Decantation filtration
 - c. Depth filtration
 - d. Screen filtration
18. Evaporation takes place at
 - a. All temperature
 - b. Freezing point
 - c. Melting point
 - d. Boiling point
19. The rate of evaporation increases if the surface area of liquid is.....
 - a. Small
 - b. Moderate
 - c. Large
 - d. Nanoscopic scale
20. The baffles are also used to
 - a. Increase condensation rate
 - b. Increase the velocity of liquid
 - c. Decrease heat transfer
 - d. Increase viscosity