

## **SECTION-D**

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Describe the principle, construction and working of plate and frame filter press with neat and clean diagram. (CO4)

Q.24 Write short notes on any two.

- a) Grizzlies (CO3)
- b) Trommels (CO3)
- c) Stationary screen (CO3)
- d) Tyler standard screen series. (CO3)

Q.25 Explain in detail principle, construction and working of Ball mill with the help of diagram. (CO2)

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## **2nd Sem / Chemical, Chem P & P Subject : Mechanical Operations**

Time : 3 Hrs.

M.M. : 60

## **SECTION-A**

**Note:** Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 Cream can be separated from milk using (CO5)

- a) Clarifier
- b) Tubular centrifuge
- c) Vacuum leaf filters
- d) Plate and frame filter press

Q.2 In screen analysis, the notation 40/50 means (CO3)

- a) Passing through 40 mesh and retained on 50 mesh
- b) Passing through 50 mesh and retained on 40 mesh
- c) 40 gm. fine particles and 50gm coarse particle
- d) 50 gm. fine particles and 40 gm coarse particle

- Q.3 Which of the following is a continuous filter? (CO4)
- Plate and frame filter press
  - Shell and leaf filter press
  - Rotary drum filter
  - None of the above
- Q.4 Sphericity of spherical particle is (CO1)
- 0
  - 0.5
  - Infinity
  - 1
- Q.5 The operating speed of a ball mill should be \_\_\_\_\_ the critical speed. (CO2)
- Less than
  - more than
  - Equal to
  - More than or equal to
- Q.6 Fluid energy mill is used for (CO2)
- Cutting
  - Crushing
  - Ultra-fine grinding
  - None of these

## SECTION-B

**Note:** Objective/ Completion type questions. All questions are compulsory. (6x1=6)

- Q.7 Define mesh member. (CO3)
- Q.8 Write name of any two grinding equipment. (CO2)
- Q.9 Define sedimentation. (CO4)

- Q.10 Name any two liquid-liquid mixing equipment. (CO6)
- Q.11 Define filter media. (CO4)
- Q.12 State Rittinger's law of crushing. (CO2)
- SECTION-C**
- Note:** Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)
- Q.13 Define sphericity and write brief note on particle shape. (CO1)
- Q.14 State and explain Kick's law and work index. (CO2)
- Q.15 Differentiate between Jaw crusher and smooth roll crusher. (CO2)
- Q.16 Explain the construction and working of Gyratory screens. (CO3)
- Q.17 Differentiate between thickener and clarifier. (CO5)
- Q.18 Define and write the expression for screen effectiveness. (CO3)
- Q.19 Describe double arm kneader with the help of neat diagram. (CO6)
- Q.20 What is vortex formation? How vortex formation can be prevented in agitated vessels? (CO6)
- Q.21 Discuss the working of fluid energy mill. (CO2)
- Q.22 Discuss the construction and working of disc centrifuge. (CO5)