

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)

No. of Printed Pages : 4

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Roll No.

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)

- a) Plate and frame filter press
- b) Shell and leaf filter press
- c) Rotary drum filter
- d) None of the above

Q.4 Sphericity of spherical particle is (CO1)

- a) 0 b) 0.5
- c) Infinity d) 1

Q.5 The operating speed of a ball mill should be _____ the critical speed. (CO2)

- a) Less than b) more than
- c) Equal to d) More than or equal to

Q.6 Fluid energy mill is used for (CO2)

- a) Cutting b) Crushing
- c) Ultra-fine grinding d) 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)

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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)

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