

- Q.31 Define free settling and hindered settling.
- Q.32 Draw neat sketch of nozzle discharge centrifuge.

SECTION-D

Note: Long answer type questions. Attempt any three questions out of four questions. (3x10=30)

- Q.33 Describe the principle, construction and working of plate and frame filter press with neat and clean diagram.
- Q.34 Write material balance over screen capacity and screen effectiveness in detail.
- Q.35 Explain the construction, working and advantages of ball mill with neat and clean diagram.
- Q.36 Explain the principle, Construction and working of tubular centrifuge with neat and clean diagram.

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3rd Sem. / Chemical Engg.

Subject : Mechanical Operation

Time : 3 Hrs.

M.M. : 100

SECTION-A

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

- Q.1 Crushers works on the principle of _____ (Impact/Compression)
- Q.2 Write name of any one grinder.
- Q.3 Size of particle of mesh no 200 is _____ than the particle of size of mesh no 100.
- Q.4 Mention name of any one dispersion blade.
- Q.5 Write the name of symbol (ϕ s).
- Q.6 Rotary drum vacuum filter is a type of continuous vacuum filter. (True/False)
- Q.7 Choose in suspended batch centrifugal the filtration operation can be carried by using centrifugal force or pressure force.

(360)

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- Q.8 Write the name of any one filter aids.
- Q.9 The minimum clear space between the edges of the opening in the screening surface is termed as _____
- Q.10 Write the unit of pressure. _____

SECTION-B

Note: Very short answer type questions. Attempt any ten questions out of twelve questions. (10x2=20)

- Q.11 Define Screen Capacity.
- Q.12 Define over size particles.
- Q.13 Write the name of any two Batch (discontinuous) pressure filter.
- Q.14 Define Crushing.
- Q.15 Define bond's law of crushing.
- Q.16 Define sedimentation.
- Q.17 Name any three types of industrial screen.
- Q.18 Write one purpose of reducing the size of particle.
- Q.19 State the function of a kneader.

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- Q.20 Why doctor blade is used in continuous rotary vaccum filter.
- Q.21 Why cyclone separator is used.
- Q.22 Explain the function of vaccum in filtration.

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x5=40)

- Q.23 Write down the expression for number of particles in a mixture.
- Q.24 Write the expression for power required by machines.
- Q.25 Draw flowsheet for closed circuit grinding.
- Q.26 Explain the working of rotary knife cutter with diagram.
- Q.27 Name the various part of Blake jaw crusher.
- Q.28 Define critical speed of ball mill.
- Q.29 Explain the working of two arm kneader with its diagram.
- Q.30 State the role of filter aids in filtration and name any three.

(3)

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