Q.25 What is energy & power requirements comminution?

Q.26 Draw neat sketch of smooth roll crusher.

Q.27 Explain fluid energy mill?

Q.28 List various types of screening equipment.

Q.29 Define screen capacity.

Q.30 What are cake filter, clarifying filter & cross flow filter?

Q.31 Describle plate & frame filter press with neat sketch.

Q.32 Explain centrifugal filter?

Q.33 Write a note on filter aids.

Q.34 What is batch sedimentation?

Q.35 Define gyratory screen.

SECTION-D

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

Q.36 Give the classification of size reduction equipment. Explain jaw crusher in detail with neat sketch?

Q.37 Explain in detail separation based on motion of Particles through fluids?

Q.38 Write short notes on any two of the following.

(A) Mechanical efficiency

(B) Bond's law

(C) Screen efficiency

(D) Centrifugal settling process.

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3rd Sem / Chemical (P&P), Chem.Engg.
(Spl. Paint Tech.) Chem. Engg.
(Spl. Polymer Engg.)

Subject:- Mechanical Operations

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 How can be a single soild particale characterized?

a) Size b) Shape

c) Density d) All of the above

Q.2 Standard screen are used for particle in the size range between_____

a) 56mm-18mm b) 66mm-28mm

c) 76mm-38mm d) 86mm-48mm

Q.3 What is the effect of reducing the size of particles on reactivity of solid?

a) Increase the reactivity

b) Decrease the reactivity

c) No change in the reactivity

d) None

Q.4 In 1885 who proposed crushing law?

a) Bond law b) kick's law

c) Rittinger law d) None

Q.5 Which of the following works on principle of impact?

a) Jaw crusher b) Roll crusher

c) Ball mill d) None

Q.6 Which jaw is fixed in jaw crusher?

a) Upper jaw b) Lower jaw

c) Middle jaw d) None

Q.7 On which principle is screening based?

a) Size b) Shape

c) Density d) All of the above

Q.8 Choose the principle of mixing?

a) Gravitational force b) Centrifugal force

c) Shear fore d) None

Q.9 Suspended centrifuges usually operate on cycles of_____.

a) 5-25 min/load b) 10-30 min/load

c) 15-35 min/load d) 20-40 min/load

Q.10 What is perlite ?

a) Filter aids b) Filter media

c) Filter cake d) None

SECTION-B

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

Q.11 Which particles are called regular particles ?

Q.12 Which type of particle contain heterogeneous mixture?

Q.13 What is $Æ_s$ in $Æ_s = 6VP/D_pS_p$?

Q.14 Size & shape are easily specified for which type of particles?

Q.15 What is purpose of crusher ?

Q.16 Write the unit of pressure.

Q.17 Which is best filter used for waste treatment ?

Q.18 Where change can mixers is used ?

Q.19 Name any two filter aids.

Q.20 Name any one clarifying filters.

SECTION-C

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

Q.21 Explain particle size for characterization of single solid particles?

Q.22 Define differential analysis.

Q.23 Write a note of storage of solids.

Q.24 Describe mixing of solids..