Q.24 Give the classification filtration. Explain in detail.

Q.25 Write short notes on any two of the following-

a) Ultrafine Grinder

b) Rotary drum filter

c) Sedimentation

d) Vortex formation & its prevention

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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 Individual solid particles are characterized by their _____

a) Size b) Shape

c) Density d) All of the above

Q.2 Which of the following works on principle of compression?

a) Jaw crusher b) Rod mill

c) Ball mill d) None

Q.3 On which principle screening is based?

a) Size b) Shape

c) Density d) All of the above

Q.4 What is the rate of gyration in gyrating screen?

a) 200-600rpm b) 400-1200

c) 600-1800 d) None

Q.5 What is the shape of plates in filter press?

a) Triangular b) Square

c) Round d) None

Q.6 Choose the principle of mixing.

a) Shear force b) Gravitational force

c) Centrifugal force d) None

SECTION-B

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

Q.7 What is Æs for a spherical particle of diameter D_P?

Q.8 How many jaws are in jaw crusher?

Q.9 48´ 120-inch screen (vibrating screen) draw about _____ energy.

Q.10 What is the unit of pressure?

Q.11 Name any one filter press.

Q.12 What is the utility of mixing?

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Explain the term particle size.

Q.14 Define expression for power required by machine.

Q.15 Draw neat sketch of fluid energy mill.

Q.16 List screening equipment.

Q.17 Define clarifying equipment.

Q.18 What is centrifugal equipment.

Q.19 Why thickeners are used?

Q.20 Explain utility of mixing.

Q.21 Mention any four application of pressure filter.

Q.22 Define mesh no.

SECTION-D

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

Q.23 Describe the empirical relations for Rittinger law, Bond's law, Kick's law.