

Unit 6 - Lectures for week-3

Course outline

How to access the portal?

Zero Assignment

Lectures for week-1

Lectures for week-2

Lectures for week-3

- Lecture – 11: Rotary Disc Feeder and Centrifugal Hopper Feeder
- Lecture – 12 : Bladed Wheel and Tumbling Barrel Hopper Feeders
- Lecture – 13 : Rotary Centreboard and Magnetic Feeders
- Lecture – 14 : Part Orienting Devices
- Lecture – 15 : Feed Tracks and their analysis
- Quiz : Assignment -03**
- Assignment-3 Solution
- Feedback for Week 3

Lectures for week-4

Live Session

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Assignment -03

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-08-21, 23:59 IST.

1) For a normal track acceleration of a vibratory bowl feeder more than 1, the parts located on the track of the bowl feeder would

1 point

- have a high impact velocity
- have low impact velocity
- not move up the track
- move up the track

No, the answer is incorrect.
Score: 0

Accepted Answers:
move up the track

2) In a vibratory bowl feeder, for the backward sliding of a part on the inclined track of the feeder, following condition should satisfy

1 point

- $\frac{a_0 \omega^2}{g} > \frac{\mu_z \cos \theta + \sin \theta}{\cos \psi + \mu_z \sin \psi}$
- $\frac{a_0 \omega^2}{g} > \frac{\mu_z \cos \theta - \sin \theta}{\cos \psi - \mu_z \sin \psi}$
- $\tan \psi > \frac{\tan \theta}{\mu_z}$
- $\tan \psi = \frac{\tan \theta}{\mu_z}$

No, the answer is incorrect.
Score: 0

Accepted Answers:

$$\frac{a_0 \omega^2}{g} > \frac{\mu_z \cos \theta - \sin \theta}{\cos \psi - \mu_z \sin \psi}$$

3) The suspension springs that support the bowl on the base of a vibratory bowl feeder primarily decide the

1 point

- vibration angle of the feeder
- stability of the feeder
- conveying velocity of the feeder
- frequency and amplitude of vibration imparted to the bowl

No, the answer is incorrect.
Score: 0

Accepted Answers:
vibration angle of the feeder

4) frequency and amplitude of vibration imparted to the bowl

0 points

- be less
- not be affected
- be more
- none of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
be more

5) Highest conveying velocities are achieved when the track angle of the vibratory bowl feeder is

1 point

- between 3 degree and 4 degree
- 45 degree
- 10 degree
- zero degree

No, the answer is incorrect.
Score: 0

Accepted Answers:
zero degree

6) Conveying velocity of a vibratory bowl feeder can be increased by

1 point

- decreasing the track inclination angle
- using low frequency of vibration
- coating the track with rubber
- all of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
all of the above

7) In a reciprocating tube hopper feeder, the optimum hopper load is

1 point

- half the volume of the hopper
- one fourth of the volume of the hopper
- three fourth of the volume of the hopper
- three fourth of the volume of the hopper

No, the answer is incorrect.
Score: 0

Accepted Answers:
half the volume of the hopper

8) In a reciprocating tube hopper feeder, to prevent part jamming between the hopper wall and the reciprocating tube, the static coefficient of friction between the part and the wall should be

1 point

- around 1
- less than 0.577
- more than 0.577
- equal to 0.577

No, the answer is incorrect.
Score: 0

Accepted Answers:
less than 0.577

9) For a reciprocating tube hopper feeder with a static coefficient of friction between the parts and the hopper wall of 0.3945, the hopper angle in degrees, so that the parts do not jam, should be

1 point

- 90
- 26
- 39
- more than 43

No, the answer is incorrect.
Score: 0

Accepted Answers:
more than 43

10) For centerboard hopper feeder the mean feed rate of the hopper feeder is

1 point

- (a) proportional to the blade frequency
- (b) proportional to the maximum angle between track and horizontal
- (c) directly proportional to the length of the track and inversely proportional to the part length
- (d) proportional to the angular acceleration of the track

Select the most appropriate combination of right answers

- (a) (b) (c)
- (a) (c) (d)
- (a) (c)
- (b) (c) (d)

No, the answer is incorrect.
Score: 0

Accepted Answers:
(a) (c)