Week 8 Assignment 8

The due date for submitting this assignment has passed. Due on 2018-03-21, 23:59 IST.

Submitted assignment

1) A fine ore processing plant treats 800 t of solids per hour. The feed pulp contains 40% solids by weight. What is the dilution ratio and the water required in m^3 per hour respectively?

- 1.5, 300
- 0.67, 533.33
- 1.5, 1200
- None

No, the answer is incorrect.
Score: 0
Accepted Answers:
1.5, 1200

2) Calculate the underflow, if overflow is found to be 0.45.

- 0.34
- 0.55
- 0.33
- 0.65

No, the answer is incorrect.
Score: 0
Accepted Answers:
0.55

3) Cyclones can be employed for the separation of

- Solid-liquid
- Liquid-gas
- Solid-gas

2 points
4) The feed to a flotation plant assays 0.9% copper. The concentrate produced assays 30% Cu, and the tailings 0.15% Cu. What is the enrichment ratio?  

- 200  
- 39.8  
- 11.94  
- 33.33  

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
33.33

5) Separation of solid from liquid is known as Dewatering.  

- True  
- False  

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
False

6) Removal of fines from coarse particles is termed as:  

- Desliming  
- Degritting  
- Thickening  
- None  

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
Desliming

7) Consider separation of feed into underflow and overflow by a hydrocyclone. Feed is 1500 tons/hr and the underflow is 80% of the feed. Calculate the circulating load ratio.  

- 0.25  
- 1.25  
- 4  
- 3  

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
4

8) The smaller the diameter of cyclone, the cut size (d50)  

- increases  
- decreases  
- remains unaltered  
- becomes inconsistent  

No, the answer is incorrect.  
Score: 0
9) Calculate the overflow ratio, if the mass fraction in feed is 0.635 and fraction in overflow is 0.945, while in underflow is 0.285.

- 0.85
- 0.66
- 0.75
- 0.50

No, the answer is incorrect.
Score: 0
Accepted Answers:
0.66

10) For the best performance, hydrocyclones should be operated at a feed solid concentration by volume of

- 10-15%
- 15-30%
- 30 to 40%
- None

No, the answer is incorrect.
Score: 0
Accepted Answers:
10-15%

11) A flotation plant treats 600 t of solids per hour. The feed pulp, containing 30% solids by weight, is conditioned for 5 min with reagents before being pumped to flotation. What is the mass flow rate of water (t/h) in the slurry stream?

- 1400
- 257.14
- 900
- 125

No, the answer is incorrect.
Score: 0
Accepted Answers:
1400

12) Air core diameter in a hydrocyclone increases if

- Cone angle decreases
- Cone angle increases
- Does not depend on cone angle
- None

No, the answer is incorrect.
Score: 0
Accepted Answers:
Cone angle decreases

13) Analyze the following circuit. What is the value of flow rate of concentrate and tailing respectively?
14) Vortex finder length of a given cyclone (Dc) ranges from
- $D_c/2$ to $D_c/3$
- $D_c/2$ to $D_c/5$
- $D_c/3$ to $D_c/5$
- $D_c/4$ to $D_c/6$

No, the answer is incorrect.
Score: 0
Accepted Answers: $254.4$ & $945.6$

15) The relation between flow rate (Q) and cyclone diameter (Dc) at fixed pressure drop is $Q \propto [Dc]^{z}$ Where $z$ values lies between
- 1.4 to 1.8
- 1.8 to 2.0
- 2.0 to 2.5
- 2.5 to 2.8

No, the answer is incorrect.
Score: 0
Accepted Answers: 1.8 to 2.0