Answer saved

Marked out of 0.50

Flag question

Time left 0:55:28

A milling circuit mills 17 460 dry tonnes a day at a moisture content of 3% what will be the required milling rate

a. 749 wet tonnes per hour

b. 720 wet tonnes per hour

c. 728 wet tonnes per hour

Clear my choice

Metallurigical Plant Design and Con

Time left 0:05:30

A mill with inside diameter of 3.353 m with new shell liners operates at 17.3 r/min the percentage critical speed with which it is revolving will be?

a. 75

b. 73

c. 74

Clear my choice

Next page

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Fin

Marked out of 0.50

Flag question

Time left 0:54:03

A SAG mill expecting to mill 17 460 dry tonnes a day at a moisture content of 3% experiences 2 hours downtime, at what rate should it mill?

a. 818 wet tonnes per hour

b. 799 wet tonnes per hour

c. 759 wet tonnes per hour

Marked out of 0.50

Flag question

Time left 0:34:09

If a plant is designed to run on a circulation load of 350 %, what should be the mill discharge density (ρ_{MD}) at the designed circulation load. Take cyclone underflow density, ($\rho_{u/f}$) of 75% solids, cyclone overflow density ($\rho_{o/f}$) of 30% solids.

a. 58

b. 74

c. 56

Clear my choice

Question 25

Answer saved

Marked out of 0.50

Flag question

Time left 0:04:25

The grinding circuit of a metallurgical plant produces on the average 44 640 tonnes per day at an overflow density of 25%, what volume of slurry will be going to the thickener per hour, ore sg of 2.72?

a. 5 580

b. 6 264

c. 1 860

Clear my choice

Time left 0:03:54

The grinding circuit of a metallurgical plant processes an average 44 640 tonnes per day at an overflow density of 25% and a thickener discharge density of 50% for three thickeners. The water volume exiting each thickener per hour will be assuming equal feed distribution?

a. 1 240 m^3

b. 2 088 m^3

c. 1 090 m^3

Time left 0:03:42

The grinding circuit of a metallurgical plant processes an average 44 640 tonnes per day at an overflow density of 25% and a thickener discharge density of 50% for three thickeners, what will be the slurry volume reporting to the CIL circuit from each thickener per hour assuming equal feed distribution?

a. 620 m^3

b. 848 m^3

c. 228 m^3

Metallurigical Plant Design and Con

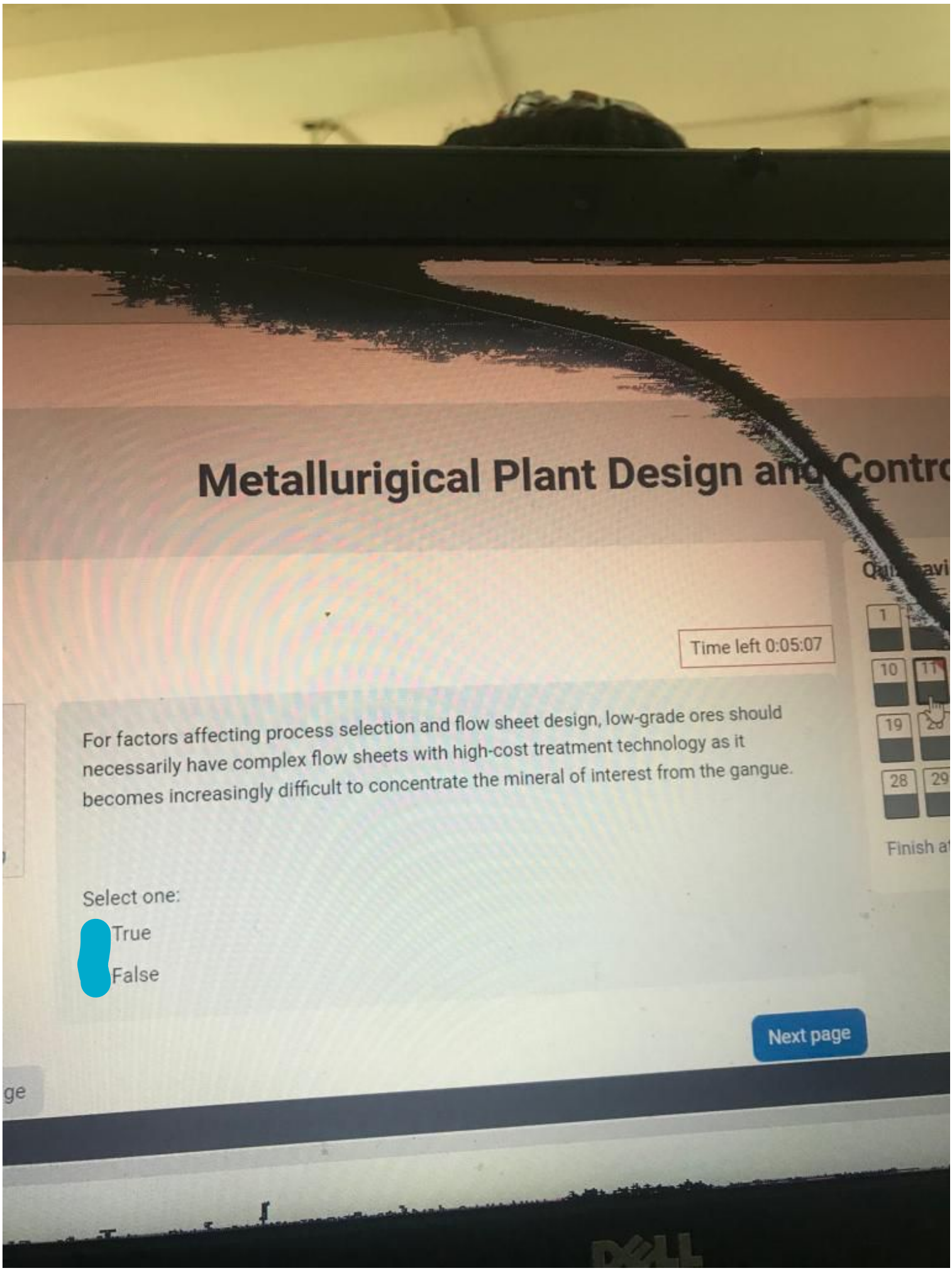
Time left 0:05:26

A flow sheet is the systematic development of an optimum metal extraction route for a particular feed material using the appropriate technology.

Select one:

- True
- False

Next page


Metallurigical Plant Design and Contro
Time left 0:05:07
For factors affecting process selection and flow sheet design, low-grade ores should necessarily have complex flow sheets with high-cost treatment technology as it becomes increasingly difficult to concentrate the mineral of interest from the gangue.
Select one:
True
False
Next page
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Marked out of 0.50

Flag question

Time left 0:04:14

The grinding circuit of a metallurgical plant produces on the average 44 640 tonnes per day at an overflow density of 25% and a thickener discharge density of 50%, what volume of water will exit the thickener per hour?

a. 6 264 m^3

b. 3 720 m^3

c. 3 270 m^3

Metallurigical Plant Design and Cont

Time left 0:05:19

A process selection is a graphical representation of a process that is concerned with manufacturing or extraction of a particular item.

Select one:

True

False

Next page

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Metallurigical Plant Design an

Time left 0:04:46

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Variations in ore hardness affect work index, grindability and degree of fracturing.

Select one:

True

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Metallurigical Plant Design and Co

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Time left 0:04:54

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The geometry and variability of an ore body cannot dictate the sequence of mining different regions and possibly different ore types within the ore body because blending can easily offset this.

Select one:

- True
- False

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Metallurigical Plant Design and Co

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Time left 0:05:00

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For factors affecting process selection and flow sheet design, higher grade ores must be treated by low cost processes, so as to maximize revenue.

Select one:

True

False

Next page

evious page

Question 22

Not yet answered

Marked out of 0.50

Flag question

Time left 0:49:58

A mill is designed for a throughput of 1.5 million tonnes per year, the daily throughput will be

a. 172

b. 171

c. 170

Clear my choice

Previous page

Next page

Metallurigical Plant Design

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Time left

uestion 18

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Flag
uestion

For the calculation of the mill critical speed if ⟦mv⟧ ^2/r > mg particle falls.

Select one:

True

False

Previous page

Ne

Metallurigical Plant Design an

Time left 0:04:35

stion 16
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Screen efficiency can be defined as (% of undersize in the feed that should ideally pass)/(% of undersize in the feed that actually passes)

Select one:

True

False

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Metallurigical Plant Design an

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Time left 0:04:29

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For the calculation of the mill critical speed if ⟦mv⟧ ^2/r=mg, particle is vortexing.

Select one:

True

False

Next page

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Metallurigical Plant Design and Co

Time left 0:03:53

A mill has installed two seven thousand kilowatt motors that run for 22.5 hrs to grind its feed from 80% passing 150 mm to 106μm. Determine the work index of the ore if the plant mills 40,500 tonnes.

a. 8.414

b. 8.144

c. 81.441

Clear my choice

Finish

Metallurigical Plant Design and

Back

Time left 0:04:42

uestion 15

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arked out of 50

Flag uestion

For a given screen surface, the open screen area is in the order; A slot < A rectangle < A square < A circle.

Select one:

True

False

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Metallurigical Plant Design and C

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Time left 0:03:58

estion 20

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Flag
estion

A plant wishes to mill 36,000 but experienced 2 hours downtime and delivers this material to the CIL circuit at a thickener discharge density of 50%, the residence time will be (sg of ore = 2.72, volume of tank = 3 255 m^3).

a. 1.544 hrs

b. 1.454 hrs

c. 1.586 hrs

Qu

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Metallurigical Plant Design an

Back

Time left 0:04:04

Question 19

Answer saved

Marked out of 0.50

Flag question

The operating work index input obtained and the work index are the same.

Select one:

True

False

Previous page

Next page

Metallurigical Plant Design a

Back

Time left 0:04

Question 18

Answer saved

Marked out of 0.50

Flag question

For the calculation of the mill critical speed if ⟦mv⟧ ^2/r > mg particle falls.

Select one:

True

False

Previous page

Next page

T-VLE

Metallurigical Plant Design and

Back

Time left 0:02:23

Question 26

Answer saved

Marked out of 0.50

Flag question

A thickener is to be installed to receive cyclone overflow of solids concentration, 0.43 kg/L and thicken it to 1.22 kg/L. If the plant throughput is 1000 t/h and the sedimentation test gave a settling rate of 750 mm/min, estimate the thickener diameter (sg of liquid = 1.0 and Π = 3.14).

a. 1.58

b. 1.85

c. 18.5

Clear my choice

DELL

MaT-VLE

Metallurigical Plant Design and Cont

Back

Time left 0:03:37

Question 21

Answer saved

Marked out of 0.50

Flag question

A mill has installed two seven thousand kilowatt motors that run for 22.5 hrs to grind its feed from 80% passing 150 mm to 106µm. Determine the work index of the ore if the plant mills 40,500 tonnes.

a. 8.414

b. 8.144

c. 81.441

Clear my choice

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Finish at

DELL

Metallurigical Plant Design and Co

Back

Time left 0:02:29

Question 25

Answer saved

Marked out of 0.50

Flag question

A thickener is to be installed to receive cyclone overflow of solids concentration, 0.43 kg/L and thicken it to 1.22 kg/L. If the plant throughput is 1000 t/h and the sedimentation test gave a settling rate of 750 mm/min, estimate the area of the thickener (sg of liquid = 1.0).

a. 2.03 m^2

b. 1.96 m^2

c. 1.69 m^2

Clear my choice

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F12

Metallurigical Plant Design and Cont

Back

Time left 0:02:41

Question 23

Answer saved

Marked out of 0.50

Flag question

A thickener is to be installed to receive cyclone overflow of density 30% solids and thicken it to 55% solids. In a day, the plant is expected to treat 25,000 t of ore at 4% moisture, and sedimentation test has resulted in a settling rate of 750 mm/min. Estimate the area of the thickener, take liquid sg as unity?

a. 32 m^2

b. 48 m^2

c. 46 m^2

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Finish

Metallurigical Plant Design and Co

Back

Time left 0:01:14

Question 30

Answer saved

Marked out of 0.50

Flag question

A plant is to process 1000 t of material per hour at a slurry density of 40% solids. If the residence time of the process is 18 h, determine the number of tanks required given a tank diameter of 3 255 m^3. Assume that the ore contains 80% quartz of s. g., 2.7.

a. 13

b. 8

c. 10

Clear my choice

Quiz

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Finish

DELL

F3 F4 F5 F6 F7 F8 F9 F10 F11 F12

Metallurigical Plant Design and Cont

Back

Time left 0:00:58

Question 24

Answer saved

Marked out of 0.50

Flag question

A thickener is to be installed to receive cyclone overflow of density, 30% solids and thicken it to 55% solids. In a day, the plant is expected to treat 25,000 t of ore at 4% moisture. If lateritic material with very bad settling characteristics is encountered at an sg of liquid as unity and the settling rate changes to 300 mm/min the thickener area will be.

a. 120 m^2

b. 117 m^2

c. 96 m^2

Quiz

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DELL

F4 F5 F6 F7 F8 F9 F10 F11 F12 Home

Metallurigical Plant Design and Con

Back

Time left 0:02:36

Question 24

Answer saved

Marked out of 0.50

Flag question

A thickener is to be installed to receive cyclone overflow of density, 30% solids and thicken it to 55% solids. In a day, the plant is expected to treat 25,000 t of ore at 4% moisture. If lateritic material with very bad settling characteristics is encountered at an sg of liquid as unity and the settling rate changes to 300 mm/min the thickener area will be.

a. 120 m^2

b. 117 m^2

c. 96 m^2

Quiz

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Finish

DELL

Metallurigical Plant Design and Contro

Back

Time left 0:02:45

Question 22

Answer saved

Marked out of 0.50

Flag question

The weight W of the grinding medium is determined in relation to the mill volume as: $A=\rho_b \epsilon_b V_m$, where ρ_b =1.6 is ball density, ϵ_b = 40% is apparent ball filling fraction i.e. percentage volume of entire mill occupied by balls and V_m is the volume of mill. The ratio of the mill volume to the weight of the ball will be.

a. 1.365

b. 1.653

c. 1.563

Clear my choice

Quiz

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Finish att

DELL

F10 F11 F12

Metallurigical Plant Design an Co

Time left 0:05:36

For the cost indices, cost now = (Cost index then x Cost index now)/Cost then)x100%.

Select one:

- True
- False

Next page

UMaT-VLE

Metallurigical Plant Design an

Back

Time left 0:02:11

Question 27

Answer saved

Marked out of 0.50

Flag question

A mineral processing plant mills 5,000 tonnes per day at a moisture content of 15%. The product is sent to the flotation plant at a pulp density of 50% for a flotation time of 10 minutes. Given ore sg as 3.0 and the volume of the cell as 0.8 m^3/h .The volume of pulp to the volume of the cell is 0.8 (k). Calculate the number of cells required in this flotation plant.

a. 600

b. 500

c. 595

Clear my choice

DELL

UMaT-VLE

Metallurigical Plant Design and

Back

Time left 0:02:02

Question 28

Answer saved

Marked out of 0.50

Flag question

A plant is to process 1000 t of material per hour at a slurry density of 40% solids. If the residence time of the process is 18 h, estimate the total volume of tanks required for the process. Assume that the ore contains 80% quartz of s. g., 2.7.

a. 33 660 m^3

b. 30 006 m^3

c. 2 500 m^3

Clear my choice

Previous page

Next page

DELL

F4 F5 F6 F7 F8 F9 F10 F11

Metallurigical Plant Design an

Back

Time left 0:01:49

Question 29

Answer saved

Marked out of 0.50

Flag question

A plant is to process 1000 t of material per hour at a slurry density of 40% solids. If the residence time of the process is 18 h. Assume that the ore contains 80% quartz of s. g., 2.7, the volume/weight of water required per hour is

a. 667 m^3

b. 1 500 m^3

c. 1 870 m^3

Clear my choice

DELL

Metallurigical Plant Design and

Back

Time left 0:06:12

Question 5

Answer saved

Marked out of 0.50

Flag question

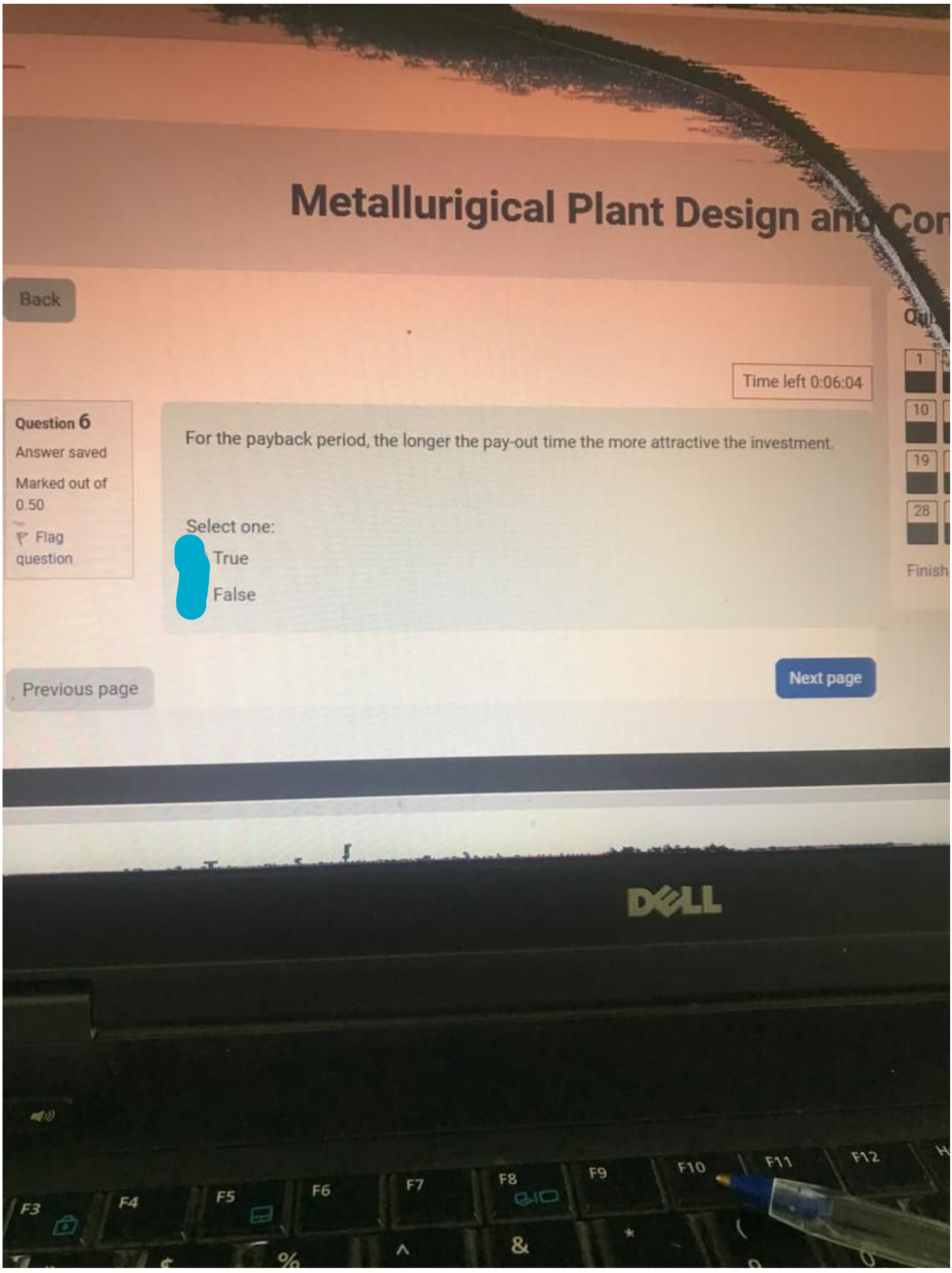
For the rate of return on investments, a lower ratio indicates a better investment.

Select one:

- True
- False

Previous page

Next page


Metallurigical Plant Design and Con
Back
Time left 0:06:04
Question 6
Answer saved
Marked out of 0.50
Flag question
For the payback period, the longer the pay-out time the more attractive the investment.
Select one:
True
False
Previous page
Next page
Finish
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Metallurigical Plant Design and C

Back

Time left 0:06:00

Question 6

Answer saved

Marked out of 0.50

Flag question

For the payback period, the longer the pay-out time the more attractive the investment.

Select one:

- True
- False

Previous page

Next page

DELL

F3 F4 F5 F6 F7 F8 F9 F10 F11 F12

Metallurigical Plant Design an

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Time left 0:06:54

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Topography and climatic conditions of the area have no effect on the activities of the metallurgical industry as powerful pumps are always available to permit flow of material and disposal of tailings without recourse to gravity.

Select one:

True

False

evious page

Next page

Metallurigical Plant Design an

Time left 0:07:01

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Among the factors affecting metallurgical plant location, utilities and recreational facilities do not contribute to plant production and do not need to be located close to the plant.

Select one:

- True
- False

Next page

Metallurigical Plant Design an

Back

Time left 0:06:48

uestion 3

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larked out of 50

Flag uestion

In metallurgical process design economics, at break-even point, total production cost is equal to total capital cost.

Select one:

- True
- False

revious page

Next page

DELL

A plant wishes to mill 36 000 dry tonnes a day at a moisture content of 3% the wet tonnes required will be

Time left 0:59:12

a. 37 080

b. 36 080

c. 34 920

Clear my choice

Previous page

Next page

Marked out of 0.50

Flag question

Time left 0:32:40

For the calculation of the mill critical speed if mv^2/r is less than mg particle is thrown against the wall.

Select one:

True

False

Previous page

Finish attempt ...

Answer saved

Marked out of 0.50

Flag question

Time left 0:22:33

The grinding circuit of a metallurgical plant produces on the average 44 640 tonnes per day at an overflow density of 25%, what volume of slurry will be going to the thickener per hour, ore sg of 2.72?

a. 5 580

b. 6 264

c. 1 860

Clear my choice

Question 25

Not yet answered

Marked out of 0.50

Flag question

Time left 0:23:38

The grinding circuit of a metallurgical plant produces on the average 44 640 tonnes per day at an overflow density of 25%, what volume of slurry will be going to the thickener per hour, ore sg of 2.72?

a. 5 580

b. 6 264

c. 1 860

Clear my choice

Question 29

Not yet answered

Marked out of 0.50

Flag question

Time left 0:30:04

When a crusher is referred to as 54"- 74", it means the mantle diameter is 54" and the gape is 74".

Select one:

True

False

Previous page

Next page

The initial particle size of feed and the final crushed product of ore from a certain concession are 1250 mm and 50 mm respectively. How many crushing stages should be incorporated in the circuit if the reduction ratio should generally be between 3 and 6?

a. 5

b. 3

c. 2

Clear my choice

Marked out of 1.00

Flag question

Time left 1:09:03

Continuous research after plant is in production throughout the lifespan of the operation is not required to enhance the business and may necessitate changes to some of the operating parameters, and in extreme case, design parameters wasting unnecessary time and does not contribute to production in any way.

Select one:

- True
- False

Not yet answered

Marked out of 0.50

Flag question

Time left 0:57:11

A milling circuit mills 17 460 dry tonnes a day at a moisture content of 3% what will be the required milling rate

a. 749 wet tonnes per hour

b. 720 wet tonnes per hour

c. 728 wet tonnes per hour

Clear my choice

Question 16

Answer saved

Marked out of 1.00

Flag question

Time left 1:04:54

For a multistage crushing of reduction ratios R_1, R_2,...,R_n, the overall reduction ratio is,

R1+R2+.....+Rn.

Select one:

True

False

Previous page

Next page




CA

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Flag question

Time left 1:15:02

A pilot plant can be used to *assess* the technical and economic effects of changes in flowsheet, process conditions, or reagent choice that *can* be made in an existing operation.

Select one:

True

False

Previous page

Next page

Question 10

Answer saved

Marked out of 1.00

Flag question

Time left 1:16:51

Pilot plant test increases the risks related to improper equipment selection, insufficient retention times, inadequate solids suspension, and other engineering/design issues.

Select one:

- True
- False

Question 13

Not yet answered

Marked out of 1.00

Flag question

Time left 1:12:31

Plant start-up and trial-run ranges from simple handing over to complex commissioning engineering and may involve several disciplines depending on the degree of complexity of the project.

Select one:

True

False

Marked out of 1.00

Flag question

Time left 1:17:34

A good plant design, careful planning and execution of the startup can contribute towards complicated commissioning problems and ensures production is delayed as the budget and design capacity and efficiency are to be well tested.

Select one:

True

False

Not yet answered

Marked out of 1.00

Flag question

Time left 1:12:03

Production after plant commissioning is the routine processing to obtain the product continuously.

Select one:

True

False

Previous page

Next page

Question 9

Answer saved

Marked out of 1.00

Time left 1:16:59

Flag question

At the bench-scale studies stage, if the production is not economically viable, you can proceed to the pilot plant test stage.

Select one:

True

False

Previous page

Next page




Question 8

Time left 1:17:09

Answer saved

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Flag question

Questions arising out of mineralogy in metallurgical plant design are the type of separation process to be used, the concentration ratio (C/F) and the by-product, waste disposal system.

Select one:

True

False

Question 12

Not yet answered

Marked out of 1.00

Flag question

Time left 1:13:09

Plant commissioning is done to adjust/confirm the parameters that were scaled up from the pilot plant and allow it to run to attain steady state.

Select one:

True

False

Previous page

Next page

Plant design entails all operations except:

Time left 0:58:03

a. Cost engineering - Economic evaluation

b. Process engineering - Flow sheet

c. Design engineering - Equipment selection and coordination

d. Labour engineering - Operations