

Notations :

- Options shown in **green** color and with  icon are correct.
- Options shown in **red** color and with  icon are incorrect.

Subject Name :	Mining Engineering
Creation Date :	2024-06-12 13:33:02
Duration :	120
Total Marks :	120
Display Marks:	Yes
Share Answer Key With Delivery Engine :	Yes
Actual Answer Key :	Yes
Change Font Color :	No
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Mining Engineering

Group Number :	1
Group Id :	38382342
Group Maximum Duration :	0
Group Minimum Duration :	120
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	120

Mathematics

Section Id :	383823115
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	10
Number of Questions to be attempted :	10

Section Marks : 10
Maximum Instruction Time : 0
Sub-Section Number : 1
Sub-Section Id : 383823115
Question Shuffling Allowed : Yes

Question Number : 1 Question Id : 3838235881 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $A = \begin{pmatrix} 3 & -2 \\ 4 & -2 \end{pmatrix}$ satisfies the matrix equation $A^2 - KA + 2I = 0$ then the value of K is

Options :

1. ✖ 0

2. ✖ -1

3. ✔ 1

4. ✖ 2

Question Number : 2 Question Id : 3838235882 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $A = \frac{1}{2} \begin{pmatrix} -1 & 1 & 1 & 1 \\ 1 & -1 & 1 & 1 \\ 1 & 1 & -1 & 1 \\ 1 & 1 & 1 & -1 \end{pmatrix}$ the $(AA^T)^{-1}$ is

Options :

1. ✔ I

2. ✖ 2I

3. ✖ 3I

4. ✖ 4I

Question Number : 3 Question Id : 3838235883 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Compute the Jacobian $\frac{\partial(x,y)}{\partial(u,v)}$ of the transformation $x = \frac{u+v}{1-uv}$ and $y = \tan^{-1} u + \tan^{-1} v$

Options :

1. ✖ -1

2. ✔ 0

3. ✖ 1

4. ✖ $\frac{1}{x} + \frac{1}{y}$

Question Number : 4 Question Id : 3838235884 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The value of $\int_0^1 x^4 (1-x)^2 dx$ is

Options :

1. ✔ $\frac{1}{105}$

2. ✖ $\frac{1}{501}$

3. ✖ $\frac{1}{205}$

4. ✖ $\frac{1}{502}$

Question Number : 5 Question Id : 3838235885 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The unit normal vector to the level surface $x^2 y + 2xz = 4$ at the point $(2, -2, 3)$ is

Options :

1. ✖ $\frac{i - 2j + 2k}{3}$

2. ✖ $\frac{i - 2j - 2k}{3}$

3. ✔ $\frac{-i + 2j + 2k}{3}$

4. ✖ $\frac{i + 2j - 2k}{3}$

Question Number : 6 Question Id : 3838235886 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The general solution of the differential equation $(D^2 - 5D + 6)y = e^{3x}$ is

Options :

1. ✖ $c_1 e^{2x} + c_2 e^{3x} + e^{3x}$

2. ✔ $c_1 e^{2x} + c_2 e^{3x} + x e^{3x}$

3. ✖ $c_1 e^{-2x} + c_2 e^{-3x} + e^{3x}$

4. ✖ $c_1 e^{-2x} + c_2 e^{-3x} + x e^{3x}$

Question Number : 7 Question Id : 3838235887 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The particular integral of $(x^2 D^2 + 4xD + 2)y = x^2$ is

Options :

1. ✖ $\frac{e^{2x}}{12}$

2. ✖ $\frac{x}{12}$

3. ✖ $\frac{x e^x}{12}$

4. ✓ $\frac{x^2}{12}$

Question Number : 8 Question Id : 3838235888 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The Newton-Raphson iteration $x_{n+1} = \frac{1}{3} \left(2x_n + \frac{N}{x_n^2} \right)$ is used to compute

Options :

1. ✓ $\sqrt[3]{N}$

2. ✗ $\sqrt{N}$

3. ✗ $\frac{1}{N}$

4. ✗ $\frac{1}{\sqrt{N}}$

Question Number : 9 Question Id : 3838235889 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Given $x = 4y + 5$ and $y = Kx + 4$ are the lines of regression of x on y and y on x respectively. What is the value of K , if value of correlation coefficient $r = 0.5$?

Options :

1. ✗ $\frac{1}{8}$

2. ✗ $\frac{1}{17}$

3. ✓ $\frac{1}{16}$

4. ✗ $\frac{1}{15}$

Question Number : 10 Question Id : 3838235890 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If X is a Poisson variate such that $P(X=1) = \frac{3}{10}$ and $P(X=2) = \frac{1}{5}$ then the mean of the distribution is

Options :

1. ✖ $\frac{3}{2}$

2. ✖ $\frac{3}{4}$

3. ✖ $\frac{2}{3}$

4. ✔ $\frac{4}{3}$

Mining Engineering

Section Id :	383823116
Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	110
Number of Questions to be attempted :	110
Section Marks :	110
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	383823116
Question Shuffling Allowed :	Yes

Question Number : 11 Question Id : 3838235891 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The angle, which the fault plane makes with the vertical plane is referred to as

Options :

1. ✖ Dip
2. ✔ Hade
3. ✖ Heave
4. ✖ Throw

Question Number : 12 Question Id : 3838235892 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

An overturned fold in which two limbs dip towards each other is named as

Options :

1. ✖ Syncline
2. ✖ Inclined isoclinal fold
3. ✔ Anticlinal fan fold
4. ✖ Synclinal fan fold

Question Number : 13 Question Id : 3838235893 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Placer Gold deposits are mostly

Options :

1. ✖ Colluvial
2. ✖ Illuvial
3. ✔ Alluvial
4. ✖ Eluvial

Question Number : 14 Question Id : 3838235894 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Kolar Gold Field (KGF) deposit is an example of

Options :

1. ✓ Fissure vein deposit
2. ✗ Shear zone deposit
3. ✗ Ladder vein deposit
4. ✗ Stock work deposit

Question Number : 15 Question Id : 3838235895 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Bauxite is

Options :

1. ✗ Aluminium oxide
2. ✓ Hydrous aluminium oxide
3. ✗ A complex aluminium salt
4. ✗ Hydrous aluminium chloride

Question Number : 16 Question Id : 3838235896 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The drivage driven from one coal seam to adjacent coal seam in underground coal mines is called as

Options :

1. ✗ Tunnel
2. ✓ Cross-measure-drift
3. ✗ Crosscut
4. ✗ Staple-pit

Question Number : 17 Question Id : 3838235897 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The starting point of shaft at the ground surface is called

Options :

1. ✓ Collar
2. ✗ Pithead
3. ✗ Platform
4. ✗ Scaffold

Question Number : 18 Question Id : 3838235898 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Insufficient stemming causes

Options :

1. ✗ Over breakage of coal
2. ✗ Excessive vibration
3. ✓ Blown out shot
4. ✗ High powder factor

Question Number : 19 Question Id : 3838235899 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Match correctly for method of drilling given in column A to principle of rock cutting in column B.

Column A (Method of drilling)		Column B (Principle of rock cutting)	
P	Diamond drilling	1	Impact action
Q	Percussive drilling	2	Thermal spalling
R	Rotary roller drilling	3	Rotary abrasive
S	Jet piercing	4	Cutting & Ploughing

Options :

1. ✗ P-3, Q-4, R-2, S-1

2. ✖ P-1, Q-4, R-2, S-3

3. ✖ P-3, Q-2, R-1, S-4

4. ✔ P-3, Q-1, R-4, S-2

Question Number : 20 Question Id : 3838235900 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is added as sensitizers in explosive?

Options :

1. ✖ NaCl

2. ✖ NH_4NO_3

3. ✔ NG

4. ✖ Charcoal

Question Number : 21 Question Id : 3838235901 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The angle in degrees at which a ridge line intersects contours is

Options :

1. ✖ 0°

2. ✖ 30°

3. ✖ 45°

4. ✔ 90°

Question Number : 22 Question Id : 3838235902 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The basic concept behind GPS is

Options :

1. ✓ Triangulation
2. ✗ Trilateration
3. ✗ Traverse
4. ✗ Tachometry

Question Number : 23 Question Id : 3838235903 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Every line has two bearings such as fore bearing and back bearing. If fore bearing is less than 180° , then what will be the back bearing?

Options :

1. ✗ Back bearing = Fore bearing $- 180^\circ$
2. ✓ Back bearing = Fore bearing $+ 180^\circ$
3. ✗ Back bearing = Fore bearing
4. ✗ Back bearing = $180^\circ - \text{Fore bearing}$

Question Number : 24 Question Id : 3838235904 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

One of the tacheometric constants is additive, the other constant is

Options :

1. ✗ Subtractive
2. ✓ Multiplying constant
3. ✗ Dividing constant
4. ✗ Indicative constant

Question Number : 25 Question Id : 3838235905 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The length of the tangent of a simple circular curve of radius R and angle of deflection Δ is given by

Options :

1. ✖ $R \left(\sin \frac{\Delta}{2} \right)$

2. ✖ $R \left(\cos \frac{\Delta}{2} \right)$

3. ✔ $R \left(\tan \frac{\Delta}{2} \right)$

4. ✖ $\tan \frac{\Delta}{2}$

Question Number : 26 Question Id : 3838235906 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If only two members form a truss joint and no external load or support reaction is applied to the joint, then the members

Options :

1. ✖ Have infinite force

2. ✖ Have equal but opposite force

3. ✔ Are zero force members

4. ✖ Have unequal forces

Question Number : 27 Question Id : 3838235907 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A multi point borehole extensometer is used to monitor

Options :

1. ✖ Convergence between the roof and the floor

2. ✖ Strain between fixed points along a borehole
3. ✖ Strain between the anchor point and the reference point on the surface
4. ✔ Changing distances between fixed points along a borehole

Question Number : 28 Question Id : 3838235908 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Match the following:

<u>Instrument</u>		<u>Measurement</u>	
P	Flat jack	1	In-situ stress in rock
Q	Borehole deformation gauge	2	Load
R	Tape extensometer	3	Bed separation resistance
S	Bore hole penetrometer	4	Roof convergence

Options :

1. ✔ P-2 ,Q-1,R-4,S-3
2. ✖ P-1,Q-4,R-2,S-3
3. ✖ P-3,Q-2,R-1,S-4
4. ✖ P-3,Q-4,R-1,S-2

Question Number : 29 Question Id : 3838235909 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The term “bulking factor” refers to

Options :

1. ✖ Roof-to-floor convergence in a mine roadway
2. ✖ Change in axial length of a rock sample with respect to its original length
3. ✖ Change in normal displacement of a rock sample as a result of shear displacement
4. ✔ Change in volume of rock mass to its original volume after it breaks

Question Number : 30 Question Id : 3838235910 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For a cylindrical sample of cross-sectional area A, Length L, Young's modulus E and axial load P, the strain energy stored is

Options :

1. ✓ $\frac{P^2 L}{2AE}$

2. ✗ $\frac{PL^2}{2AE}$

3. ✗ $\frac{P^2 L^2}{AE}$

4. ✗ $\frac{P^2 L}{AE}$

Question Number : 31 Question Id : 3838235911 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Poisson's ratio is the

Options :

1. ✗ Rate change of strain as a function of stress

2. ✗ Load applied on the material per unit area

3. ✓ Ratio of lateral strain to longitudinal strain

4. ✗ Ratio of stress to strain

Question Number : 32 Question Id : 3838235912 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The ratio of specific weight of an intact rock to that of loose rock is called as

Options :

1. ✖ Fill factor
2. ✖ Loose density
3. ✔ Swell factor
4. ✖ Compaction factor

Question Number : 33 Question Id : 3838235913 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Out of the support categories given for an underground coal mine, identify the “active support”

Options :

1. ✖ Wire mesh
2. ✖ Shotcrete
3. ✖ Fully grouted roof bolt
4. ✔ Hydraulic prop

Question Number : 34 Question Id : 3838235914 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Dilatancy of rock is associated with

Options :

1. ✖ Increase in surface area after fragmentation
2. ✖ Decrease in volume due to compression of rock
3. ✖ Increase in shear strain due to cracking of rock
4. ✔ Increase in volume due to cracking of rock

Question Number : 35 Question Id : 3838235915 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Given S is the setting load and Y is the yield load of a hydraulic prop, the correct relationship between S and Y is

Options :

1. ✓ $S < Y$
2. ✗ $S > Y$
3. ✗ $S = Y$
4. ✗ $S = Y^2$

Question Number : 36 Question Id : 3838235916 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which one of the following is the most likely mode of slope failure for waste dump?

Options :

1. ✓ Circular
2. ✗ Wedge
3. ✗ Plane
4. ✗ Toppling

Question Number : 37 Question Id : 3838235917 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which one of the following supports does not require a power pack for its operation?

Options :

1. ✗ Chock shield support
2. ✗ Open circuit hydraulic prop
3. ✓ Close circuit hydraulic prop

4. ✖ Alpine breaker line support

Question Number : 38 Question Id : 3838235918 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In RMR, Rock Quality Designation (RQD) 41% to 60% indicates a rock as

Options :

1. ✖ Very poor

2. ✖ Poor

3. ✔ Fair

4. ✖ Good

Question Number : 39 Question Id : 3838235919 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The property that cannot be determined from uni-axial compressive strength test of a rock sample fitted with strain gauges is

Options :

1. ✔ Cohesion

2. ✖ Poisson's ratio

3. ✖ Modulus of elasticity

4. ✖ Dilation

Question Number : 40 Question Id : 3838235920 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Exposure of weak roof in junctions of a development district in a coal mine can be decreased by

Options :

1. ✖ Increasing dimension of panel barrier

2. ✖ Stitching side walls
3. ✖ Increasing support density at junctions
4. ✔ Staggering the junctions

Question Number : 41 Question Id : 3838235921 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The hydraulic sand stowing pipeline layout should be such that

Options :

1. ✖ The geometric profile must coincide with the hydraulic gradient line
2. ✔ The hydraulic profile should always be below the hydraulic gradient line
3. ✖ The hydraulic profile should always be above the hydraulic gradient line
4. ✖ The geometric profile should always be above the hydraulic gradient line

Question Number : 42 Question Id : 3838235922 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Massive sandstone in immediate roof delays the local fall in roof of a coal mine.
Under this condition, crushing of the pillars at out-bye side is called

Options :

1. ✖ Coal bump
2. ✔ Overriding of pillars
3. ✖ Stiffening of pillars
4. ✖ Spalling of pillars

Question Number : 43 Question Id : 3838235923 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A flat long wall panel is mined out at an area having subsidence factor 'a'. The measured maximum subsidence on the surface is 'S' for a mining height of 'm'. The subsidence is sub critical, if

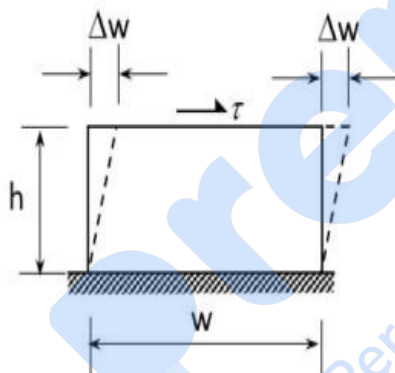
Options :

1. ✗ $S = am$
2. ✗ $S = m/a$
3. ✗ $S > am$
4. ✓ $S < am$

Question Number : 44 Question Id : 3838235924 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A shear stress ' τ ' acts tangentially to the upper surface of a block and causes a small deformation ' Δw ' as shown. The shear strain is calculated by



Options :

1. ✗ $\frac{\Delta w}{w}$
2. ✓ $\frac{\Delta w}{h}$
3. ✗ $\frac{2\Delta w}{w}$
4. ✗ $\frac{2\Delta wh}{h}$

Question Number : 45 Question Id : 3838235925 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In any underground coal mine which of the following occurs first?

Options :

1. ✖ Main fall
2. ✖ Periodic fall
3. ✔ Local fall
4. ✖ Air blast

Question Number : 46 Question Id : 3838235926 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

“Cross-measure borehole method” is used for

Options :

1. ✖ Rock slope monitoring
2. ✔ Methane drainage
3. ✖ Connecting two drifts
4. ✖ Subsidence monitoring

Question Number : 47 Question Id : 3838235927 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Phenomena of the rocks in immediate roof, bend downwards under their own weight and tend to separate from one another is known as

Options :

1. ✖ Subsidence
2. ✖ Pressure arch
3. ✔ Bed separation
4. ✖ Roof bending

Question Number : 48 Question Id : 3838235928 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Radial stress on the excavation boundary of a circular tunnel is

Options :

1. ✓ Always zero
2. ✗ Always positive
3. ✗ Always negative
4. ✗ Positive in some areas and negative in some areas

Question Number : 49 Question Id : 3838235929 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The phenomena of lifting up of the floor, when the floor is weak is called

Options :

1. ✓ Heave
2. ✗ Creep
3. ✗ Bending
4. ✗ Bump

Question Number : 50 Question Id : 3838235930 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The strength of a stranded wire rope is proportional to

Options :

1. ✗ The diameter of the rope
2. ✓ Square of the diameter of the rope

3. ✖ Square root of the diameter of the rope

4. ✖ Inverse of the diameter of the rope

Question Number : 51 Question Id : 3838235931 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following term is not related to underground Metal Mining?

Options :

1. ✖ Crown pillar

2. ✖ Sill pillar

3. ✖ Chute

4. ✔ Bucket Wheel Excavator

Question Number : 52 Question Id : 3838235932 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The equipment not related to extraction of coal from long wall face operation is

Options :

1. ✖ AFC

2. ✔ Road header

3. ✖ Powered support

4. ✖ DERD Shearer

Question Number : 53 Question Id : 3838235933 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Match the following

<u>Equipment</u>		<u>Specified supply voltage</u>	
P	Coal drill	1	30 V
Q	Side discharge loader	2	125 V
R	Shear machine	3	550 V
S	Signaling wire	4	1100 V

Options :

1. ✖ P-2,Q-4,R-3,S-1
2. ✖ P-2,Q-1,R-4,S-3
3. ✔ P-2,Q-3,R-4,S-1
4. ✖ P-1,Q-3,R-2,S-4

Question Number : 54 Question Id : 3838235934 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The pillars formed during development are split into small pillars are called as

Options :

1. ✔ Stooks
2. ✖ Splits
3. ✖ Slices
4. ✖ Judd

Question Number : 55 Question Id : 3838235935 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which one of the following is not a component in a Scraper?

Options :

1. ✖ Bowl
2. ✖ Apron

3. ✖ Cutting blade

4. ✔ Bucket

Question Number : 56 Question Id : 3838235936 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Terrace cut is made in an open-pit mine using

Options :

1. ✖ Front-end loader

2. ✔ Bucket-wheel loader

3. ✖ Wheel tractor- Scraper

4. ✖ Clam shell

Question Number : 57 Question Id : 3838235937 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In a cable belt conveyor the function of the cable is to

Options :

1. ✖ Increase the lateral stiffness of the belt

2. ✖ Increase the tensile strength of the belt

3. ✔ Support and provide motion to the belt

4. ✖ Minimize elongation of the belt under tension

Question Number : 58 Question Id : 3838235938 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The purpose of weights hung at the bottom of the guide rope in a mine shaft is to

Options :

1. ✖ Prevent coiling back of ropes

2. ✖ Reduce the mass of the shaft conveyance
3. ✖ Provide guidance for fixing of buntions in the shaft
4. ✔ Provide tensioning and keep ropes vertically

Question Number : 59 Question Id : 3838235939 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

According to mine regulation, the value of the fleet angle θ , in degree of a drum winder installation lies in the range of

Options :

1. ✖ $1.5 < \theta \leq 2.0$
2. ✔ $0 < \theta \leq 1.5$
3. ✖ $2.0 < \theta \leq 2.5$
4. ✖ $2.5 < \theta \leq 3.0$

Question Number : 60 Question Id : 3838235940 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following mode of entry can be used for deeper deposits?

Options :

1. ✖ Horizon
2. ✖ Adit
3. ✔ Shaft
4. ✖ Incline

Question Number : 61 Question Id : 3838235941 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Tri-cone drill bit is a type of

Options :

1. ✖ Cross-cut
2. ✖ Button bit
3. ✔ Rotary roller bit
4. ✖ Button drag bit

Question Number : 62 Question Id : 3838235942 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Ward-Leonard system is provided in the winding system in order to restrict

Options :

1. ✖ Over-winding of the cage
2. ✖ Deceleration of the cage
3. ✖ Acceleration of the cage
4. ✔ Over-speeding of the cage

Question Number : 63 Question Id : 3838235943 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In a fully mechanized bord and pillar mining system, winning of coal and its transportation from the face is commonly carried out with the combination of

Options :

1. ✔ Continuous miner, shuttle car, feeder breaker and belt conveyor
2. ✖ Continuous miner, LHD, feeder breaker and chain conveyor
3. ✖ Continuous miner, SDL, feeder breaker and belt conveyor
4. ✖ Continuous miner, shuttle car, feeder breaker and chain conveyor

Question Number : 64 Question Id : 3838235944 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In a belt conveyor system, function of the snub pulley is to

Options :

1. ✖ Clean the inner surface of the belt
2. ✖ Clean the outer surface of the belt
3. ✔ Increase the angle of contact of belt with drive drum
4. ✖ Decrease the belt tension

Question Number : 65 Question Id : 3838235945 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A long wall face cut by double back shuffle method can be only worked with

Options :

1. ✖ Fixed drum shearer
2. ✖ Single ended ranging drum shearer
3. ✔ Double ended ranging drum shearer
4. ✖ Plough

Question Number : 66 Question Id : 3838235946 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Match the following

Mining method		Technique	
P	Thick seam extraction	1	Double unit face
Q	Bord and Pillar extraction	2	Jet cutting
R	Long wall face development	3	Inclined slicing
S	Hydraulic mining	4	Half moon

Options :

1. ✖ P-3, Q-4, R-2, S-1

2. ✖ P-1, Q-4, R-2, S-3

3. ✖ P-3, Q-2, R-1, S-4

4. ✔ P-3, Q-4, R-1, S-2

Question Number : 67 Question Id : 3838235947 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In a drum hoisting system through a vertical shaft, over-winding is prevented by

Options :

1. ✖ Lilly controller

2. ✔ Detaching hook

3. ✖ Caliper brake

4. ✖ Safety catch

Question Number : 68 Question Id : 3838235948 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Given N the pump power, ρ density of pumped water, H total head and Q pump capacity, the overall efficiency of pump is

Options :

1. ✔ $\frac{Q\rho Hg}{1000 N}$

2. ✖ $\frac{N\rho Hg}{1000 Q}$

3. ✖ $\frac{Q\rho Ng}{1000 H}$

4. ✖ $\frac{1000 Q\rho Ng}{H}$

Question Number : 69 Question Id : 3838235949 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Reportable injuries are those injuries other than serious bodily injuries which involve enforced absence of persons from work for

Options :

1. ✖ More than 24 hours
2. ✖ More than 48 hours
3. ✖ Less than 72 hours
4. ✔ More than 72 hours

Question Number : 70 Question Id : 3838235950 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Axial thrust in a turbine pump acts

Options :

1. ✖ From suction side to delivery side
2. ✔ From delivery side to suction side
3. ✖ Perpendicular to pump shaft
4. ✖ In the delivery pipe

Question Number : 71 Question Id : 3838235951 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The “yellow boy” formed due to acid mine drainage mainly consists of

Options :

1. ✖ Ferric hydroxide
2. ✖ Ferrous sulfate
3. ✔ Ferrous hydroxide

4. ✖ Ferric sulfate

Question Number : 72 Question Id : 3838235952 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The significance of “potentially explosive mixture” in Coward flammability diagram is

Options :

1. ✔ Leakage of fresh air may lead to explosive condition for the mixture
2. ✖ Leakage of firedamp may lead to explosive condition for the mixture
3. ✖ Increase in the ambient temperature may lead to explosive condition for the mixture
4. ✖ Introduction of a source of ignition may result in explosion of the mixture

Question Number : 73 Question Id : 3838235953 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

From a coal seam of a mine 1000 tonnes of coal is produced per day. The seam has inflammable gas emission rate of 14000 m³ per day. Percentage of inflammable gas in general body of air is 0.14. The gassiness of the seam is

Options :

1. ✖ Degree IV
2. ✔ Degree III
3. ✖ Degree II
4. ✖ Degree I

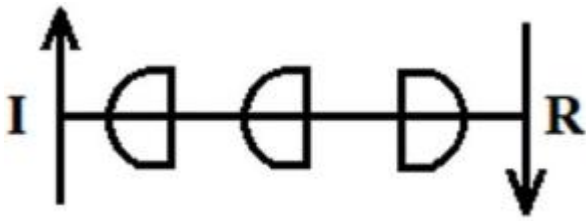
Question Number : 74 Question Id : 3838235954 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

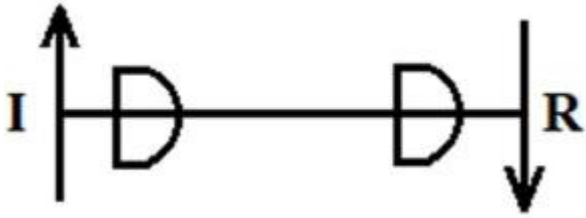
Considering ‘I’ as ‘intake’ and ‘R’ as ‘return’, the ventilation symbol for the shaft-bottom air-lock in a coal mine is

Options :

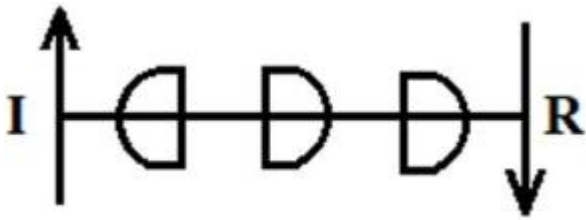
1. ✓



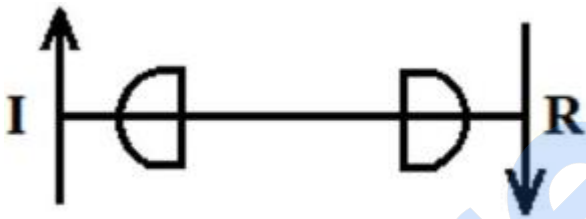
2. ✗



3. ✗



4. ✗



Question Number : 75 Question Id : 3838235955 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A panel in coalmine produces 400 tonnes per day. The number of persons employed in each of the three shifts is 110, 130 and 120. As per CMR, the minimum quantity of air that needs to be circulated at the last ventilation connection of the panel in m^3/minute is

Options :

1. ✗ 780

2. ✗ 900

3. ✓ 1000

4. ✗ 2400

Question Number : 76 Question Id : 3838235956 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In the context of gas testing using flame safety lamp, the correct statement is

Options :

1. ✖ Each accumulation test has to be necessarily followed by percentage test
2. ✖ Accumulation test is always done after percentage test
3. ✖ Either percentage test or accumulation test can be done first
4. ✔ Percentage test is done only in the event of accumulation test giving negative result

Question Number : 77 Question Id : 3838235957 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The purpose of rotating a whirling hygrometer in hygrometric survey is to

Options :

1. ✖ Wet the cotton wick with water thoroughly
2. ✖ Maintain constant temperature of water in the container
3. ✔ Create steady state evaporation of moisture from the wet bulb surface
4. ✖ Prevent the heat produced by the cap lamp of the observer from affecting the readings

Question Number : 78 Question Id : 3838235958 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Stone dust barriers in underground coal mines are used to arrest

Options :

1. ✖ Black damp explosions
2. ✖ Air blast
3. ✖ Firedamp explosions
4. ✔ Coal dust explosions

Question Number : 79 Question Id : 3838235959 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

At any particular place the relation between the suspended particulate matter (SPM) and respirable particulate matter (RPM) is

Options :

1. ✓ SPM > RPM
2. ✗ SPM < RPM
3. ✗ SPM = RPM
4. ✗ No relation between SPM and RPM

Question Number : 80 Question Id : 3838235960 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

As per the DGMS norms, warning level of noise for the worksite area is

Options :

1. ✓ 85 dBA
2. ✗ 90 dBA
3. ✗ 95 dBA
4. ✗ 100 dBA

Question Number : 81 Question Id : 3838235961 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The relation between COD (Chemical Oxygen Demand) and BOD (Bio chemical Oxygen Demand) is

Options :

1. ✓ COD > BOD
2. ✗ COD = BOD

3. ✖ COD < BOD

4. ✖ No relation between COD and BOD

Question Number : 82 Question Id : 3838235962 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A mine waste dump of pH = 5.2 can be neutralized by adding

Options :

1. ✖ Urea

2. ✔ Calcium carbonate

3. ✖ Sulphuric acid

4. ✖ Sodium chloride

Question Number : 83 Question Id : 3838235963 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Nystagmus is a miner's disease associated with

Options :

1. ✖ Liver

2. ✖ Lung

3. ✔ Eye

4. ✖ Stomach

Question Number : 84 Question Id : 3838235964 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Sum of static pressure and velocity pressure is known as

Options :

1. ✖ Atmospheric pressure

2. ✖ Absolute pressure
3. ✖ Gauge pressure
4. ✔ Total pressure

Question Number : 85 Question Id : 3838235965 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Major source of heat in underground coal mines is

Options :

1. ✖ From lights
2. ✖ From rock movement
3. ✔ Due to oxidation
4. ✖ From machinery

Question Number : 86 Question Id : 3838235966 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Natural ventilation can be caused by

Options :

1. ✖ Auto-compression in downcast shaft
2. ✔ Differences in air densities in up cast and downcast shafts
3. ✖ Auto-expansion in up cast shaft
4. ✖ Moisture content in the mine

Question Number : 87 Question Id : 3838235967 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following ventilation system is adopted for continuous miner headings?

Options :

1. ✖ Dust less auxillary ventilation
2. ✔ Overlap system of ventilation
3. ✖ Exhaust type of ventilation without ducting
4. ✖ Forcing type of ventilation

Question Number : 88 Question Id : 3838235968 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Kata thermometer is used to measure

Options :

1. ✖ Wet bulb temperature
2. ✖ Dry bulb temperature
3. ✔ Cooling time
4. ✖ Heat convection

Question Number : 89 Question Id : 3838235969 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Incubation period is not related to

Options :

1. ✖ Crossing point temperature of coal
2. ✖ Panel size
3. ✖ Seam thickness
4. ✔ Explosibility of coal dust

Question Number : 90 Question Id : 3838235970 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

As per the DGMS norms, the severity index is a measure of

Options :

1. ✘ Fatality rate
2. ✘ Serious injury rate
3. ✘ Number of reportable injuries
4. ✔ Accident proneness of mine

Question Number : 91 Question Id : 3838235971 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The computation of Graham's ratio requires the concentration values of

Options :

1. ✘ O₂, N₂, CO
2. ✔ O₂, CO
3. ✘ CO₂, N₂, CO
4. ✘ CO₂, N₂, CO, O₂

Question Number : 92 Question Id : 3838235972 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A mine disaster can be defined as an accident resulting in number of deaths of utmost

Options :

1. ✘ 5
2. ✘ 8
3. ✔ 12
4. ✘ 7

Question Number : 93 Question Id : 3838235973 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If an underground coal mine produces 60000 tonnes coal per month, as per CMR 2017, the number of under managers needed for the mine is

Options :

1. ✖ 8
2. ✔ 11
3. ✖ 9
4. ✖ 10

Question Number : 94 Question Id : 3838235974 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The maximum wet-bulb temperature at working faces as required under mines regulations is

Options :

1. ✖ 36°C
2. ✔ 33°C
3. ✖ 30°C
4. ✖ 27°C

Question Number : 95 Question Id : 3838235975 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The ratio of the theoretical power input (P_1/P_2) of two centrifugal fans having the same specific speed and operating at same speed is given by

Options :

1. ✖ $(D_1/D_2)^2$
2. ✔ $(D_1/D_2)^3$

3. ✖ $(D_1/D_2)^4$

4. ✖ $(D_1/D_2)^5$

Question Number : 96 Question Id : 3838235976 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Total number of injuries in an opencast coal mine employing 900 persons is 9 in a year 2023. As per DGMS norms, the injury rate per 1000 persons employed is

Options :

1. ✔ 10

2. ✖ 8.1

3. ✖ 100000

4. ✖ 1000

Question Number : 97 Question Id : 3838235977 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A Bulkhead door is installed in the development heading of a coal mine to control

Options :

1. ✖ coal-dust explosion

2. ✔ sudden inrush of water

3. ✖ firedamp explosion

4. ✖ air flow

Question Number : 98 Question Id : 3838235978 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Dust particles most harmful to human respiratory system are of the size of

Options :

1. ✔ About 1 micron

2. ✖ About 0.5 micron
3. ✖ About 5 micron
4. ✖ About 0.05 micron

Question Number : 99 Question Id : 3838235979 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Draeger 174 does not contain

Options :

1. ✖ By-pass valve
2. ✖ Breathing bag
3. ✖ CO₂ absorbent
4. ✔ Coolant

Question Number : 100 Question Id : 3838235980 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In an underground coal mine a driller, wearing personal protective equipment, was going to workplace along the travelling roadway. A piece of rock fell down from the roof and hit the person on head causing serious injury. The cause of accident is

Options :

1. ✖ Unsafe act of the driller
2. ✖ Job stress
3. ✖ Unsafe act and unsafe condition
4. ✔ Unsafe condition

Question Number : 101 Question Id : 3838235981 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The act performed to enrich or impoverish, either intentionally or accidentally, the mineral samples taken for assaying is known as

Options :

1. ✖ Decimating
2. ✔ Salting
3. ✖ Sniffing
4. ✖ Sludging

Question Number : 102 Question Id : 3838235982 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which one of the following does not belong to the direct operating cost of a mine?

Options :

1. ✔ Administrative cost
2. ✖ Royalty
3. ✖ Fuel cost
4. ✖ Explosive cost

Question Number : 103 Question Id : 3838235983 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Match the following in the context of environmental management

<u>Technique</u>		<u>Purpose</u>	
P	Mulching	1	Dust control
Q	Aeration	2	Noise control
R	Wet-scrubbing	3	Soil conservation
S	Silencer	4	Waste water treatment

Options :

1. ✖ P-1, Q-4, R-3, S-2
2. ✖ P-3, Q-1, R-4, S-2
3. ✖ P-4, Q-3, R-1, S-2
4. ✔ P-3, Q-4, R-1, S-2

Question Number : 104 Question Id : 3838235984 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The feasible region of an LP problem in two variables is defined by $X_1 \leq 4.5$, $X_2 \leq 3.7$ and $X_1 + X_2 \leq 7.0$ along with the non-negativity constraints. The number of corner feasibility points are

Options :

1. ✖ 2
2. ✔ 3
3. ✖ 4
4. ✖ 5

Question Number : 105 Question Id : 3838235985 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

“Work study” is a generic term used for conducting

Options :

1. ✖ Method study
2. ✖ Time study
3. ✖ Work measurement
4. ✔ Method study and work measurement

Question Number : 106 Question Id : 3838235986 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Internal rate of return of a project is the discount rate at which the

Options :

1. ✖ Profit after tax is zero
2. ✔ Net present value is zero
3. ✖ Written down value of the equipment is zero
4. ✖ Early production from the long wall face

Question Number : 107 Question Id : 3838235987 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

SIMSLIN operates on the principle of

Options :

1. ✖ Absorption
2. ✖ Optimal interference
3. ✖ Gravimetry
4. ✔ Light scattering

Question Number : 108 Question Id : 3838235988 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In an exhaustive ventilation system an evasee is used to

Options :

1. ✖ Reduce static head of the fan
2. ✖ Reduce shock loss at the fan inlet
3. ✔ Recover velocity head lost to atmosphere
4. ✖ Improve air power of the ventilation system

Question Number : 109 Question Id : 3838235989 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

As per DCF analysis a project report is acceptable, if

Options :

1. ✖ Discounting rate > IRR
2. ✔ Discounting rate < IRR
3. ✖ Discounting rate = IRR
4. ✖ There exists no relation between the Discounting rate and IRR

Question Number : 110 Question Id : 3838235990 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In PERT analysis, the expected time to complete an activity is computed from the three-time estimates: a most likely time(m), an optimistic time (a), and pessimistic time (b) using the expression

Options :

1. ✔ $\frac{a + 4m + b}{6}$
2. ✖ $\frac{4a + 4 + b}{6}$
3. ✖ $\frac{a + m + 4b}{6}$
4. ✖ $\frac{a + m + b}{3}$

Question Number : 111 Question Id : 3838235991 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In sampling, a part is collected to represent the total set of observation. Use any single word from the following to replace “Total set of observation”

Options :

1. ✖ Variance
2. ✖ Distribution
3. ✔ Population
4. ✖ Deposition

Question Number : 112 Question Id : 3838235992 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following sampling techniques is followed during sampling from wagons or dumps in the form of scoop taken at regular intervals?

Options :

1. ✖ Chip sampling
2. ✖ Borehole sampling
3. ✖ Bulk sampling
4. ✔ Grab sampling

Question Number : 113 Question Id : 3838235993 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which organization is responsible for publishing Indian Minerals year book?

Options :

1. ✔ Geological Survey of India
2. ✖ Mineral Exploration Corporation Limited
3. ✖ India Bureau of Mines
4. ✖ Directorate General of Mines Safety

Question Number : 114 Question Id : 3838235994 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

As per classification of mineral resources “reserve” means

Options :

1. ✗ Identified resources
2. ✓ Identified and techno-economically viable resources
3. ✗ Hypothetical resources
4. ✗ Inferred resources

Question Number : 115 Question Id : 3838235995 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For any moderately skewed uni-modal frequency curve, the following is a valid empirical relationship

Options :

1. ✗ $\text{Mode} - \text{Mean} = 3(\text{Mean} - \text{Median})$
2. ✗ $\text{Median} - \text{Mode} = 3(\text{Median} - \text{Mean})$
3. ✓ $\text{Mean} - \text{Mode} = 3(\text{Mean} - \text{Median})$
4. ✗ $\text{Mean} - \text{Median} = 3(\text{Median} - \text{Mode})$

Question Number : 116 Question Id : 3838235996 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In the context of mine planning, match the following:

	Technique/Algorithm		Preferred Application
P	Lerchs-Grossman algorithm	1	Ultimate pit limit
Q	Kriging	2	Cut-off grade optimization
R	Lane's theory	3	Mine life
S	Taylor's rule	4	Reserve estimation

Options :

1. ✖ P-4, Q-3, R-2, S-1
2. ✖ P-1, Q-2, R-3, S-4
3. ✔ P-1, Q-4, R-2, S-3
4. ✖ P-3, Q-2, R-4, S-1

Question Number : 117 Question Id : 3838235997 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Coning and Quartering is a

Options :

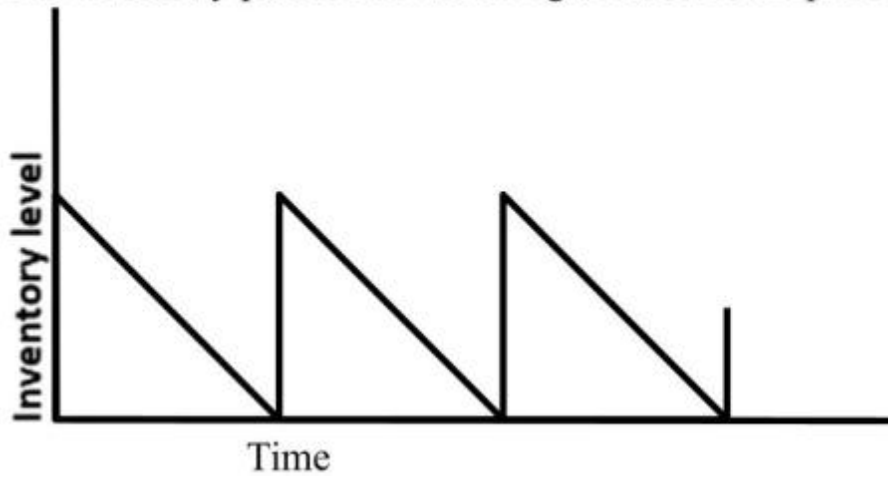
1. ✔ Method employed for obtaining a laboratory sample from the field sample
2. ✖ Mining method employed for the diamond mining
3. ✖ Mining method employed in unconsolidated ground
4. ✖ Cutting and filling method employed in underground mining

Question Number : 118 Question Id : 3838235998 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The inventory pattern shown in figure does not represent the following



Options :

1. ✗ Inventory is replenished instantaneously
2. ✓ Demand decreases with time
3. ✗ Shortage is not permitted
4. ✗ Demand is uniform

Question Number : 119 Question Id : 3838235999 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In project planning, the activity durations are calculated by PERT and CPM techniques assuming

Options :

1. ✓ PERT: probabilistic, CPM: deterministic
2. ✗ PERT: probabilistic, CPM: probabilistic
3. ✗ PERT: deterministic, CPM: probabilistic
4. ✗ PERT: deterministic, CPM: deterministic

Question Number : 120 Question Id : 3838236000 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Hoskold's formula is used for

Options :

1. ✖ Salting
2. ✔ Speculative rate of return
3. ✖ Depreciation
4. ✖ Ore reserve calculation