

Telangana State Council Higher Education

Notations :

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

Question Paper Name :	Mining Engineering 30th May 2026 Shift 1
Subject Name :	Mining Engineering
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Mining Engineering

Group Number :	1
Group Id :	10513144
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 :	10513198
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 :	10513198
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 1051315641 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The eigenvalues of 3×3 real matrix A are 0, -2, -2 and it satisfies the equation

$A^4 + 4A^3 = KA^2$ then the value of K is

Options :

1. ✖ -3

2. ✔ -4

3. ✖ 3

4. ✖ 4

Question Number : 2 Question Id : 1051315642 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Rank of the matrix $A = \begin{bmatrix} 1 & 0 & 1 & 1 \\ 0 & 1 & -3 & -1 \\ 3 & 1 & 0 & 2 \\ 1 & 1 & -2 & 0 \end{bmatrix}$ is

Options :

1. ✖ 4

2. ✖ 3

3. ✔ 2

4. ✖ 1

Question Number : 3 Question Id : 1051315643 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $u_n = \frac{\sqrt{2n^2 - 5n + 1}}{4n^3 - 7n^2 + 2}$ and $v_n = \sqrt{n^2 + 1} - \sqrt{n^2 - 1}$ then

Options :

1. ✔ $\sum_{n=1}^{\infty} u_n$ convergent and $\sum_{n=1}^{\infty} v_n$ divergent

2. ✖ $\sum_{n=1}^{\infty} u_n$ and $\sum_{n=1}^{\infty} v_n$ both converges

3. ✖ $\sum_{n=1}^{\infty} u_n$ divergent and $\sum_{n=1}^{\infty} v_n$ convergent

4. ✖ $\sum_{n=1}^{\infty} u_n$ and $\sum_{n=1}^{\infty} v_n$ both diverges

Question Number : 4 Question Id : 1051315644 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $f(x) = |\sin x|$ for $-\pi < x < \pi$ and the Fourier series of $f(x)$ is

$f(x) = \sum_{n=0}^{\infty} (a_n \cos nx + b_n \sin nx)$, then the value of the Fourier coefficient a_0 is

Options :

1. ✔ $\frac{2}{\pi}$

2. ✖ $\frac{1}{\pi}$

3. ✖

$$\frac{4}{\pi}$$

4. ✖ $\frac{3}{\pi}$

Question Number : 5 Question Id : 1051315645 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Curl of $\hat{V} = e^{xyz}(\hat{i} + \hat{j} + \hat{k})$ at the point $(1, 1, 1)$ is

Options :

1. ✖ e

2. ✖ 1

3. ✖ 0

4. ✔ $\hat{0}$

Question Number : 6 Question Id : 1051315646 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The initial value problem $(x^2 - x)\frac{dy}{dx} = (2x - 1)y, y(x_0) = y_0$ has a unique solution, if

(x_0, y_0) equals to

Options :

1. ✖ $(0, 0)$

2. ✖ $(0, 1)$

3. ✖ $(1, 1)$

4. ✔ $(2, 1)$

Question Number : 7 Question Id : 1051315647 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The particular integral of the differential equation $(D^2 + 1)y = \sin x \sin 2x$ is

Options :

1. ✓ $\frac{x}{4} \sin x + \frac{1}{16} \cos 3x$

2. ✗ $\frac{x}{2} \sin x + \frac{1}{8} \cos 3x$

3. ✗ $\frac{x}{4} \cos x + \frac{1}{16} \sin 3x$

4. ✗ $\frac{x}{2} \cos x - \frac{1}{8} \cos 3x$

Question Number : 8 Question Id : 1051315648 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Given $\int_0^3 f(x) dx = \int_0^3 (4x^2 - 1) dx$ is approximated using Simpson's $\frac{1}{3}$ rule with 3

subintervals and gives $f(0) + \alpha + f(3)$ then α is

Options :

1. ✗ 0

2. ✗ 1

3. ✓ -1

4. ✗ 8

Question Number : 9 Question Id : 1051315649 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Suppose that X and Y are independent random variable with probability densities

$$g(X=x) = \begin{cases} \frac{8}{x^3}, & x \geq 2 \\ 0, & \text{elsewhere} \end{cases} \quad \text{and} \quad f(Y=y) = \begin{cases} 2y, & 0 < y < 1 \\ 0, & \text{elsewhere} \end{cases} \quad \text{then the expected}$$

values of $Z = XY$ is

Options :

1. ✖ $\frac{4}{3}$

2. ✔ $\frac{8}{3}$

3. ✖ $\frac{1}{3}$

4. ✖ 1

Question Number : 10 Question Id : 1051315650 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If the mean and variance of a binomial variate X are 2 and 1 respectively, then the probability that X takes a value greater than one is

Options :

1. ✖ $\frac{1}{16}$

2. ✔ $\frac{11}{16}$

3. ✖ $\frac{5}{16}$

4. ✖ $\frac{15}{16}$

Mining Engineering

Section Id :	10513199
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 :	10513199
Question Shuffling Allowed :	Yes

Question Number : 11 Question Id : 1051315651 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The texture of igneous rocks depends mainly on

Options :

1. ✖ Colour of minerals
2. ✔ Rate of cooling of magma
3. ✖ Pressure conditions
4. ✖ Depth of formation

Question Number : 12 Question Id : 1051315652 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The mineral commonly used in the manufacture of cement is

Options :

1. ✖ Quartz
2. ✔ Limestone
3. ✖ Feldspar

4. ✖ Talc

Question Number : 13 Question Id : 1051315653 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which rock is a sedimentary rock?

Options :

1. ✖ Marble

2. ✔ Conglomerate

3. ✖ Slate

4. ✖ Gneiss

Question Number : 14 Question Id : 1051315654 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Schist is a metamorphic rock characterised by

Options :

1. ✖ Glassy texture

2. ✖ Massive structure

3. ✔ Foliated structure

4. ✖ Vesicular texture

Question Number : 15 Question Id : 1051315655 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The example for foliated metamorphic rock is

Options :

1. ✖ Marble

2. ✖ Quartzite
3. ✔ Slate
4. ✖ Hornfels

Question Number : 16 Question Id : 1051315656 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which drilling method is most commonly used in underground metal mines?

Options :

1. ✖ Auger drilling
2. ✖ Rotary drilling
3. ✔ Percussive drilling
4. ✖ Core drilling

Question Number : 17 Question Id : 1051315657 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In the etch method, the acid used to measure borehole deviation is

Options :

1. ✖ Sulphuric acid
2. ✖ Hydrochloric acid
3. ✖ Nitric acid
4. ✔ Hydrofluoric acid

Question Number : 18 Question Id : 1051315658 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In the freezing method of shaft sinking, the cooling liquid used for circulation is

Options :

1. ✖ HCl
2. ✖ HNO₃
3. ✔ CaCl₂
4. ✖ NaCl

Question Number : 19 Question Id : 1051315659 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The term “Powder Factor” refers to

Options :

1. ✖ Volume of explosive per drill hole
2. ✔ Volume of rock broken per unit explosive
3. ✖ Volume of rock broken per explosive
4. ✖ Weight of explosive per cost of explosive

Question Number : 20 Question Id : 1051315660 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In opencast blasting, delay detonators are used to

Options :

1. ✖ Increase noise
2. ✔ Reduce vibration and control muck pile
3. ✖ Reduce drilling depth

4. ✖ Increase explosive strength

Question Number : 21 Question Id : 1051315661 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Identify the correction to departure of any side in traversing?

Options :

1. ✔ $\text{Correction} = \text{total error in departure} \times \frac{\text{length of side to be corrected}}{\text{perimeter of the traverse}}$

2. ✖ $\text{Correction} = \text{total error in departure} \times \frac{\text{length of side to be corrected}}{\text{arithmetic sum of all latitudes}}$

3. ✖ $\text{Correction} = \text{total error in departure} \times \frac{\text{length of side to be corrected}}{\text{arithmetic sum of all departures}}$

4. ✖ $\text{Correction} = \text{total error in departure} \times \frac{\text{departure of side to be corrected}}{\text{sum of all latitudes of traverse}}$

Question Number : 22 Question Id : 1051315662 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

An area of 100 m² is measured on a plan having a R.F. of $\frac{1}{800}$. If the R.F. were to be

$\frac{1}{2000}$, the area in m² would be

Options :

1. ✔ 16

2. ✖ 40

3. ✖ 250

4. ✖ 625

Question Number : 23 Question Id : 1051315663 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Random errors are best minimized by

Options :

1. ✖ Adjustment
2. ✔ Repetition of observations
3. ✖ Calibration of instruments
4. ✖ Eliminating observer

Question Number : 24 Question Id : 1051315664 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The magnetic bearing of a line AB is S 32° E and the magnetic declination is 4° E.
What is the true bearing of the line AB?

Options :

1. ✖ S 36° E
2. ✖ N 36° E
3. ✔ S 28° E
4. ✖ N 28° E

Question Number : 25 Question Id : 1051315665 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A transition curve is provided to

Options :

1. ✖ Increase speed

2. ✖ Reduce distance
3. ✔ Provide a gradual change of curvature
4. ✖ Connect two straight lines directly

Question Number : 26 Question Id : 1051315666 Question Type : MCQ Option Shuffling : Yes
 Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In a Mohr-Columb failure criterion, the ratio of the uniaxial compressive strength to the tensile strength is

Options :

1. ✔ $\frac{1 + \sin \varphi}{1 - \sin \varphi}$
2. ✖ $\frac{1 - \sin \varphi}{1 + \sin \varphi}$
3. ✖ $C \times \left(\frac{1 - \sin \varphi}{1 + \sin \varphi} \right)$
4. ✖ $2C \times \left(\frac{1 - \sin \varphi}{1 + \sin \varphi} \right)$

Question Number : 27 Question Id : 1051315667 Question Type : MCQ Option Shuffling : Yes
 Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The load on a prop when upper member is beginning to slide is called

Options :

1. ✖ Load bearing capacity
2. ✖ Setting load
3. ✔ Yield load

4. ✖ Limit load

Question Number : 28 Question Id : 1051315668 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The load at which an axially loaded prop reaches its elastic limit or at which it begins to buckle is called

Options :

1. ✔ Load bearing capacity
2. ✖ Setting load
3. ✖ Yield load
4. ✖ Limit load

Question Number : 29 Question Id : 1051315669 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If Poisson's ratio of a rock sample is 0.25, then the relationship among the modulus of elasticity (E), modulus of rigidity (G) and bulk modulus (K) is

Options :

1. ✖ $E = K = G$
2. ✔ $E > K > G$
3. ✖ $E > G > K$
4. ✖ $E = G > K$

Question Number : 30 Question Id : 1051315670 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The average Young's modulus and Poisson's ratio values of a limestone sample are 60 MPa and 0.3 respectively. The shear modulus in MPa is

Options :

1. ✖ 17

2. ✖ 20

3. ✔ 23

4. ✖ 26

Question Number : 31 Question Id : 1051315671 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A rock specimen was tested in compression. The lateral and longitudinal strains were found to be 0.8% and 4% respectively. The Poisson's ratio of the specimen is

Options :

1. ✔ 0.2

2. ✖ 0.6

3. ✖ 0.5

4. ✖ 0.13

Question Number : 32 Question Id : 1051315672 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If the rock has RMR value 72, then what will be its roof classification?

Options :

1. ✖ Poor

2. ✖ Fair

3. ✔ Good

4. ✖ Very good

Question Number : 33 Question Id : 1051315673 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Creep occurs due to

Options :

1. ✖ Elastic deformation
2. ✔ Plastic deformation
3. ✖ Increase in temperature
4. ✖ Decrease in temperature

Question Number : 34 Question Id : 1051315674 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Shear strength of rock joint is not dependent on

Options :

1. ✖ Applied normal stress
2. ✔ Applied shear stress
3. ✖ Friction angle of the joint plane
4. ✖ Cohesion of the joint plane

Question Number : 35 Question Id : 1051315675 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The angle of draw in a trough subsidence helps in

Options :

1. ✖ Maximum subsidence

2. ✓ Extent of surface subsidence
3. ✗ Plane of failure
4. ✗ Critical width of opening

Question Number : 36 Question Id : 1051315676 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In a slake durability test the weight loss of a rock sample was 7%, then its durability index is

Options :

1. ✓ 93%
2. ✗ 85%
3. ✗ 65%
4. ✗ 76%

Question Number : 37 Question Id : 1051315677 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Increase in moisture content of rock

Options :

1. ✗ Increases its bearing capacity
2. ✓ Decreases its bearing capacity
3. ✗ Has medium effect on bearing capacity of rocks
4. ✗ Has no effect on bearing capacity of rocks

Question Number : 38 Question Id : 1051315678 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Identify the active support, out of support categories given for an underground coal mine

Options :

1. ✖ Wire mesh
2. ✖ Shotcrete
3. ✖ Timber prop
4. ✔ Hydraulic prop

Question Number : 39 Question Id : 1051315679 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 goaf of a coal mine.

Under this condition crushing of the pillars at outbye side is called

Options :

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

Question Number : 40 Question Id : 1051315680 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The size distribution of soil is known as

Options :

1. ✔ Gradation curve
2. ✖ Structure curve

3. ✖ Porosity curve

4. ✖ Texture curve

Question Number : 41 Question Id : 1051315681 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

When the two principal stresses are equal and are like, the resultant stress on any plane is

Options :

1. ✔ Equal to the principal stress

2. ✖ Zero

3. ✖ One-half of the principal stress

4. ✖ One-third of the principal stress

Question Number : 42 Question Id : 1051315682 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Maximum shear stress in a Mohr's Circle is

Options :

1. ✔ Equal to the radius of Mohr's circle

2. ✖ Greater than the radius of Mohr's circle

3. ✖ Less than the radius of Mohr's circle

4. ✖ Independent of the radius of Mohr's circle

Question Number : 43 Question Id : 1051315683 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Barton classified the rock mass on the basis of

Options :

1. ✖ RMR
2. ✔ Q-system
3. ✖ Slake durability
4. ✖ RQD

Question Number : 44 Question Id : 1051315684 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

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

Question Number : 45 Question Id : 1051315685 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A borehole log of 1.2 m in length, recovery of rock cores in cm are 20, 8, 15, 8, 8, 4, 3, 9, 10, 1, 5, and 10. The RQD (in percentage) is

Options :

1. ✖ 29.2
2. ✖ 31.8
3. ✔ 45.8
4. ✖ 50.0

Question Number : 46 Question Id : 1051315686 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the formula for Factor of Safety?

Options :

1. ✖ $\frac{\text{Driving Force}}{\text{Resisting Force}}$
2. ✖ Driving Force $\times$ Resisting Force
3. ✔ $\frac{\text{Resisting Force}}{\text{Driving Force}}$
4. ✖ Resisting Force – Driving Force

Question Number : 47 Question Id : 1051315687 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A cylindrical sample of cross-sectional area A, length L and Young's modulus E is subjected to a constant uniaxial load P. Within the elastic limit, the expression for the total strain energy (U) stored in the sample is

Options :

1. ✖ $U = \frac{PL^2}{2AE}$
2. ✖ $U = \frac{PL}{4AE}$
3. ✖ $U = \frac{PLA^2}{E}$
4. ✔ $U = \frac{P^2L}{2AE}$

Question Number : 48 Question Id : 1051315688 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 : 49 Question Id : 1051315689 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which one of the following ropes cannot be an effective cable bolt?

Options :

1. ✔ Locked coil wire rope
2. ✖ Langs lay wire rope
3. ✖ Ordinary lay wire rope
4. ✖ Bird-caged wire rope

Question Number : 50 Question Id : 1051315690 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Match the following mechanical properties with the formulae

Mechanical Property		Formula	
P	Modulus of Elasticity	I	$C + \sigma_n \tan \phi$
Q	Compressive strength	II	$\frac{\text{Lateral Strain}}{\text{Longitudinal Strain}}$
R	Shear Strength	III	$\frac{\text{Stress}}{\text{Strain}}$
S	Poisson's ratio	IV	$\frac{\text{Normal force}}{\text{Area}}$

Options :

1. ✗ P – I, Q – II, R – III, S – IV
2. ✗ P – I, Q – IV, R – III, S – II
3. ✓ P – III, Q – IV, R – I, S – II
4. ✗ P – III, Q – II, R – I, S – IV

Question Number : 51 Question Id : 1051315691 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Economic depth of surface mining primarily depends on

Options :

1. ✗ Seam gradient
2. ✗ Seam thickness
3. ✓ Break-even stripping ratio
4. ✗ Overburden volume

Question Number : 52 Question Id : 1051315692 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For highwall mining, web pillar design is governed mainly by

Options :

1. ✖ Surface drainage
2. ✔ Overburden thickness and coal strength
3. ✖ Coal calorific value
4. ✖ Conveyor speed

Question Number : 53 Question Id : 1051315693 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The factor of safety of a coal pillar decreases with

Options :

1. ✖ Increase in width
2. ✔ Increase in depth
3. ✖ Decrease in height
4. ✖ Increase in strength

Question Number : 54 Question Id : 1051315694 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The equipment used for both drop cut and terrace cut in surface mining is

Options :

1. ✖ Dragline
2. ✖ Shovel
3. ✖ Surface miner
4. ✔ Bucket wheel excavator

Question Number : 55 Question Id : 1051315695 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Post-pillar method of stoping is a variant of

Options :

1. ✓ Cut and fill stoping
2. ✗ Vertical crater retreat method
3. ✗ Sublevel stoping
4. ✗ Sublevel caving

Question Number : 56 Question Id : 1051315696 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A low-grade deep-seated ore body dipping at 70° has a strike length of 2 km, and width 100 m. The ore body and wall rocks are weak and fractured. The preferred method of mining is

Options :

1. ✗ Shrinkage stoping
2. ✗ Cut-and fill stoping
3. ✓ Block caving
4. ✗ Room and pillar stoping

Question Number : 57 Question Id : 1051315697 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In a cut-and-fill stope, the main purpose of back filling is to

Options :

1. ✖ Reduce ore dilution
2. ✖ Prevent high stress concentrations in far field domain
3. ✔ Prevent displacement due to dilation of fractured wall rock
4. ✖ Improve ore rehandling

Question Number : 58 Question Id : 1051315698 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The 'ratchet and pawl' mechanism in a jack hammer drill

Options :

1. ✔ Prevents reverse rotation of rifle bar
2. ✖ Forces down the piston
3. ✖ Engages rifle bar with rifle nut
4. ✖ Provides a twisting force to the drill steel

Question Number : 59 Question Id : 1051315699 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The strength of standard 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 : 60 Question Id : 1051315700 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 : 61 Question Id : 1051315701 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Emulsion explosive is a mixture of

Options :

1. ✖ Ammonium nitrate, TNT, NG
2. ✖ Ammonium nitrate, TNT, guar gum
3. ✖ Ammonium nitrate, water, NG
4. ✔ Ammonium nitrate, water, hollow micro ballons

Question Number : 62 Question Id : 1051315702 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

When a double ended ranging drum shearer cuts coal in a longwall face,

Options :

1. ✖ Both the drums rotate in the same direction keeping the front drum up and the rear drum down
2. ✔ Both the drums rotate in the opposite direction keeping the front drum up and the rear drum down

3. ✖ Both the drums rotate in the opposite direction keeping the front drum down and the rear drum up
4. ✖ Both the drums rotate in the same direction keeping the front drum and the rear drum up

Question Number : 63 Question Id : 1051315703 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Depending upon the decreasing ability of surrounding rock to store strain energy in underground metal mining methods can be ordered as

Options :

1. ✖ Cut and fill stoping, sublevel caving, sublevel open stoping, block caving
2. ✔ Sublevel open stoping, cut and fill stoping, sublevel caving, block caving
3. ✖ Sublevel caving, sublevel open stoping, cut and fill stoping, block caving
4. ✖ Block caving, sublevel caving, sublevel open stoping, cut and fill stoping

Question Number : 64 Question Id : 1051315704 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The process of treating holes with chemicals in the cementation method is called

Options :

1. ✖ Defreezing
2. ✖ Silicatisation
3. ✔ Pre-silicatisation
4. ✖ Thawing

Question Number : 65 Question Id : 1051315705 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In koepe winding the overwind is prevented by

Options :

1. ✖ Safety hook
2. ✖ Breakage of rope
3. ✔ Convergence of guides
4. ✖ Thickening of guides

Question Number : 66 Question Id : 1051315706 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 : 67 Question Id : 1051315707 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A twin cable ropeway consists of

Options :

1. ✔ Two track ropes and one traction rope
2. ✖ One track rope and two traction ropes
3. ✖ Two track ropes and two traction ropes
4. ✖

Three track ropes and one traction rope

Question Number : 68 Question Id : 1051315708 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Pocket and wing technique of pillar extraction is related to

Options :

1. ✖ Bord and pillar method
2. ✖ Room and pillar method
3. ✔ Wongawilli method
4. ✖ Shortwall method

Question Number : 69 Question Id : 1051315709 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Resuing stoping method is adopted when ore body is

Options :

1. ✔ Flat and thick
2. ✖ Very steep and thick
3. ✖ Flat and thin
4. ✖ Very steep and thin

Question Number : 70 Question Id : 1051315710 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For O.B removal with shovel optimum size of the dumper depends on

Options :

1. ✖ Distance of the haul only

2. ✖ Size of the shovel only
3. ✔ Distance of the haul and size of the shovel
4. ✖ Tonnage to be handled

Question Number : 71 Question Id : 1051315711 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The permissible limit of PM_{10} in ambient air (24-hour average) as per Central Pollution Control Board (CPCB) standards in industrial areas is

Options :

1. ✖ $60 \mu\text{g} / \text{m}^3$
2. ✔ $100 \mu\text{g} / \text{m}^3$
3. ✖ $150 \mu\text{g} / \text{m}^3$
4. ✖ $200 \mu\text{g} / \text{m}^3$

Question Number : 72 Question Id : 1051315712 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The Gaussian plume model is primarily used to estimate

Options :

1. ✖ Water contamination
2. ✖ Noise levels
3. ✔ Air pollutant dispersion
4. ✖ Soil erosion

Question Number : 73 Question Id : 1051315713 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The most effective method for controlling dust in haul roads of opencast mines is

Options :

1. ✖ Increasing vehicle speed
2. ✔ Chemical stabilization or water spraying
3. ✖ Increasing tyre pressure
4. ✖ Reducing road width

Question Number : 74 Question Id : 1051315714 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Acid Mine Drainage (AMD) is mainly caused due to oxidation of

Options :

1. ✖ Calcite
2. ✖ Quartz
3. ✔ Pyrite
4. ✖ Feldspar

Question Number : 75 Question Id : 1051315715 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

As per Central Pollution Control Board guidelines, the permissible daytime noise level in residential areas is

Options :

1. ✖ 45 dB(A)
2. ✖ 50 dB(A)

3. ✓ 55 dB(A)

4. ✗ 65 dB(A)

Question Number : 76 Question Id : 1051315716 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The first step in Environmental Impact Assessment (EIA) process is

Options :

1. ✓ Screening

2. ✗ Public hearing Impact prediction

3. ✗ Environmental clearance

4. ✗ Baseline data collection

Question Number : 77 Question Id : 1051315717 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Topsoil preservation in mine land reclamation is important because it

Options :

1. ✗ Increases dump height

2. ✗ Improves slope stability

3. ✗ Reduces blasting cost

4. ✓ Contains nutrients and microorganisms

Question Number : 78 Question Id : 1051315718 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In mine water pollution control, sedimentation ponds primarily remove

Options :

1. ✖ Dissolved salts
2. ✖ Heavy metals
3. ✔ Suspended solids
4. ✖ Acidity

Question Number : 79 Question Id : 1051315719 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The wet bulb temperature of air at a particular place in a mine is 31°C , then the velocity of air in that place should be

Options :

1. ✔ More than 1 m/s
2. ✖ Less than 1 m/s
3. ✖ More than 2 m/s
4. ✖ Less than 2 m/s

Question Number : 80 Question Id : 1051315720 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The operating point of a mine fan is

Options :

1. ✖ The intersection of fan efficiency versus quantity curve and mine characteristic curve
2. ✔ The intersection of fan pressure versus quantity curve and mine characteristic curve
3. ✖ The intersection of fan air power versus quantity curve and mine characteristic curve

4. ✖ The intersection of fan speed versus quantity curve and mine characteristic curve

Question Number : 81 Question Id : 1051315721 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Quantity of air to be circulated to u/g workings where 150 workers employed in a largest shift and daily production 500 te will be

Options :

1. ✖ $900 \text{ m}^3 / \text{min}$

2. ✖ $900 \text{ m}^3 / \text{sec}$

3. ✔ $1250 \text{ m}^3 / \text{min}$

4. ✖ $1250 \text{ m}^3 / \text{sec}$

Question Number : 82 Question Id : 1051315722 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If the CO/O_2 deficiency ratio in a mine is 2%, it indicates

Options :

1. ✖ Existence of spontaneous heating

2. ✖ Active fire

3. ✔ Heating in the advanced stage

4. ✖ No fire

Question Number : 83 Question Id : 1051315723 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In an underground coal mine a fan delivers air through cross-sectional area of 5 m^2 with an average air velocity of 4 m/s . What is the quantity of air circulated by the fan?

Options :

1. ✖ $15 \text{ m}^3/\text{s}$
2. ✔ $20 \text{ m}^3/\text{s}$
3. ✖ $20 \text{ m}^3/\text{min}$
4. ✖ $15 \text{ m}^3/\text{min}$

Question Number : 84 Question Id : 1051315724 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which one of the following is used as an escape apparatus?

Options :

1. ✖ Draeger BG 172
2. ✖ Pulmometer
3. ✔ Any open circuit rescue apparatus
4. ✖ MSA self-rescuer

Question Number : 85 Question Id : 1051315725 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The chemical Hopcalite is used in

Options :

1. ✖ Self-contained breathing apparatus
2. ✔ Gas-mask
3. ✖ Gas-detector
4. ✖ MSA- methanometer

Question Number : 86 Question Id : 1051315726 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In a mine ventilation system, the resistance of air way is such that when air quantity is $10 \text{ m}^3/\text{s}$, the pressure drop is 100 Pa. What will be the pressure drop when the air quantity is increased to $20 \text{ m}^3/\text{s}$?

Options :

1. ✓ 400 Pa
2. ✗ 300 Pa
3. ✗ 200 Pa
4. ✗ 100 Pa

Question Number : 87 Question Id : 1051315727 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A centrifugal fan rotating at 500 rpm delivers $70 \text{ m}^3/\text{s}$ of air. If the speed is reduced to 200 rpm, the quantity of air delivered in m^3/s will be

Options :

1. ✗ 175
2. ✗ 55
3. ✓ 28
4. ✗ 11

Question Number : 88 Question Id : 1051315728 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In a centrifugal flow fan, the conversion of velocity pressure to static pressure is accomplished with the help of

Options :

1. ✗ Impeller

- 2. ✖ Curved blades
- 3. ✖ Hub
- 4. ✔ Casing

Question Number : 89 Question Id : 1051315729 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The primary cause of subsurface fires in underground mines is

Options :

- 1. ✖ Over ash content in coal
- 2. ✔ Spontaneous combustion of coal
- 3. ✖ More carbon content of coal
- 4. ✖ High levels of oxygen in the air

Question Number : 90 Question Id : 1051315730 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which mine gas is colourless, odourless, and highly toxic, often called the "silent killer" in mining?

Options :

- 1. ✖ Methane
- 2. ✔ Carbon monoxide
- 3. ✖ Hydrogen sulfide
- 4. ✖ Nitrogen dioxide

Question Number : 91 Question Id : 1051315731 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In underground mining, what is the main factor contributing to dust explosions?

Options :

1. ✖ Presence of water vapour
2. ✔ Accumulation of fine coal dust in suspension
3. ✖ Accumulation of coal
4. ✖ Less ventilation

Question Number : 92 Question Id : 1051315732 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What hazard does inundation refer to in underground mines?

Options :

1. ✔ Sudden influx of water from old workings or surface sources
2. ✖ Dams breakage
3. ✖ Collapse of mine roofs
4. ✖ Water pumping

Question Number : 93 Question Id : 1051315733 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which rescue apparatus is commonly used by mine rescue teams to provide breathable air in toxic environments?

Options :

1. ✔ Self-Contained Breathing Apparatus
2. ✖ Self-rescuers

3. ✖ Fire extinguishers

4. ✖ Reviving apparatus

Question Number : 94 Question Id : 1051315734 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The cross-measure borehole method is used for

Options :

1. ✔ Methane drainage

2. ✖ Rock slope monitoring

3. ✖ Connecting two drifts

4. ✖ Subsidence monitoring

Question Number : 95 Question Id : 1051315735 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For a mixture of inflammable gases, both the lower and upper explosibility limits can be computed using

Options :

1. ✖ Boyle's law

2. ✖ Graham's law

3. ✖ Dalton's law

4. ✔ Le Chatelier relation

Question Number : 96 Question Id : 1051315736 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What does a Safety Management Plan (SMP) in mining primarily focus on?

Options :

1. ✖ Maximising production output with fewer accidents
2. ✔ Identifying hazards, assessing risks and implementing controls to ensure occupational safety
3. ✖ Marketing mine safety products and implementing safety management plans
4. ✖ Financial budgeting and safety improvements

Question Number : 97 Question Id : 1051315737 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The water gauge developed and quantity circulated with an axial flow fan depends on

Options :

1. ✖ Size of the fan
2. ✖ Shape of the blades
3. ✖ Design of the evasee
4. ✔ Speed of the blade tips

Question Number : 98 Question Id : 1051315738 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A Centrifugal fan rotating at 600 rpm delivers 70 cu.m/s of air. If the speed is reduced to 300 rpm, the quantity of air delivered in cu.m/s will be

Options :

1. ✖ 140
2. ✔ 35
3. ✖ 70

4. ✖ 17.5

Question Number : 99 Question Id : 1051315739 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The quantity of air taken by an auxiliary fan should not exceed

Options :

1. ✖ $\frac{1}{2}$ of the quantity in the air current from which the fan takes its supply

2. ✔ $\frac{1}{3}$ of the quantity in the air current from which the fan takes its supply

3. ✖ $\frac{1}{4}$ of the quantity in the air current from which the fan takes its supply

4. ✖ $\frac{1}{5}$ of the quantity in the air current from which the fan takes its supply

Question Number : 100 Question Id : 1051315740 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A Drager Gas Mask does not filter

Options :

1. ✖ Water vapour

2. ✔ Nitrous fumes

3. ✖ Carbon monoxide

4. ✖ Carbon dioxide

Question Number : 101 Question Id : 1051315741 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is NOT typically a major component of long-term mine planning?

Options :

1. ✖ Production scheduling and sequencing
2. ✖ Pit optimization and ultimate pit limit determination
3. ✔ Daily shift-wise blasting and pattern design
4. ✖ Orebody modeling and reserve estimation

Question Number : 102 Question Id : 1051315742 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which sampling method is most commonly used for grade control in open-pit mining during production?

Options :

1. ✖ Channel sampling
2. ✔ Reverse circulation drilling
3. ✖ Grab sampling
4. ✖ Bulk sampling

Question Number : 103 Question Id : 1051315743 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In reserve estimation, what does the term “kriging” primarily refer to in geostatistics?

Options :

1. ✖ A method of random sampling

A weighted least-squares interpolation technique that provides the Best Linear

2. ✔ Unbiased Estimator

3. ✖ A graphical method for plotting ore contours
4. ✖ A variance reduction technique using histograms

Question Number : 104 Question Id : 1051315744 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following quality control practices is essential to detect and correct systematic errors in assay results during mineral resource estimation?

Options :

1. ✖ Duplicate sampling only
2. ✔ Insertion of certified reference materials, blanks and field duplicates at regular intervals
3. ✖ Increasing sample size without QA/QC
4. ✖ Relying solely on laboratory internal checks

Question Number : 105 Question Id : 1051315745 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Lerchs-Grossmann algorithm or nested pit shells are most commonly used for which stage of mine planning?

Options :

1. ✖ Short-term production scheduling
2. ✔ Ultimate pit limit optimisation (economic pit shell determination)
3. ✖ Equipment selection
4. ✖ Ventilation network design

Question Number : 106 Question Id : 1051315746 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In work-study (time and motion study) applied to mining operations, what is the primary purpose of a “rating factor”?

Options :

1. ✓ To adjust the observed time to standard time based on worker's performance level
2. ✗ To calculate machine availability
3. ✗ To determine labour cost per ton
4. ✗ To measure drill penetration rate

Question Number : 107 Question Id : 1051315747 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which reserve estimation technique assumes a completely random distribution and is generally used only for initial rough estimates?

Options :

1. ✗ Ordinary Kriging
2. ✗ Inverse Distance Weighting
3. ✗ Polygonal method
4. ✓ Nearest Neighbour method

Question Number : 108 Question Id : 1051315748 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A key component of a feasibility report that summarizes project risks, sensitivities, and contingency plans is called

Options :

1. ✗ Mineral Resource Statement
2. ✓ Risk Assessment and Sensitivity Analysis

3. ✖ Capital Cost Estimate
4. ✖ Mining Method Selection

Question Number : 109 Question Id : 1051315749 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

According to the UNFC (United Nations Framework Classification) systems, which category represents the highest level of geological confidence and economic viability for a mineral deposit?

Options :

1. ✖ Inferred Resources
2. ✖ Indicated Resources
3. ✖ Measured Resources
4. ✔ Proven + Probable Reserves

Question Number : 110 Question Id : 1051315750 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The average grade of the mineral of a vein type of orebody with grade and thickness varying from place to place within the same orebody is arrived by

Options :

1. ✖ Average of all grades
2. ✔ Weighted average of all grades
3. ✖ Median of all grades
4. ✖ Mode of all grades

Question Number : 111 Question Id : 1051315751 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following profitability measures is most commonly used to compare mining projects of different sizes and lives?

Options :

1. ✖ Payback Period
2. ✖ Accounting Rate of Return
3. ✔ Net Present Value
4. ✖ Profit Margin

Question Number : 112 Question Id : 1051315752 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which financial metric indicates the time required for cumulative cash inflows to recover the initial investment in a mining project?

Options :

1. ✖ Internal Rate of Return (IRR)
2. ✔ Discounted Payback Period (DPP)
3. ✖ Net Present Value (NPV)
4. ✖ Profitability Index (PI)

Question Number : 113 Question Id : 1051315753 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If two projects have the same NPV but Project A has a higher IRR than Project B, what is the usual recommendation when capital is limited?

Options :

1. ✖ Choose the project with the higher NPV regardless of IRR

2. ✓ Choose the project with the higher IRR
3. ✗ Always choose the project with a longer life
4. ✗ Reject both projects

Question Number : 114 Question Id : 1051315754 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is a common form of mineral taxation applied in many countries to capture economic rent from mining operations?

Options :

1. ✗ Flat corporate income tax
2. ✓ Royalty based on the volume or value of minerals produced
3. ✗ Fixed annual license fee
4. ✗ Penalty on minerals

Question Number : 115 Question Id : 1051315755 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The primary objective of a balanced transportation problem is to

Options :

1. ✗ Maximize profit
2. ✓ Minimize total transportation cost while satisfying supply and demand
3. ✗ Maximize the total supply
4. ✗ Minimise the number of routes

Question Number : 116 Question Id : 1051315756 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The assignment problem is a special case of the transportation problem where

Options :

1. ✖ Supply and demand are unlimited
2. ✔ Each source supplies exactly one unit and each destination demands exactly one unit
3. ✖ Costs are always zero
4. ✖ The number of sources exceeds destinations

Question Number : 117 Question Id : 1051315757 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In network analysis using the Critical Path Method (CPM), the critical path is the one with

Options :

1. ✔ The longest duration
2. ✖ Total float
3. ✖ Maximum resources
4. ✖ Negative float

Question Number : 118 Question Id : 1051315758 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In decision theory, which criterion assumes the decision-maker is pessimistic?

Options :

1. ✖ Maximax criterion
2. ✖ Minimax regret criterion
3. ✔ Maximin criterion

4. ✖ Expected value criterion

Question Number : 119 Question Id : 1051315759 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is a primary advantage of Monte Carlo simulation?

Options :

1. ✖ It always provides exact analytical solutions
2. ✔ It handles complex stochastic systems where analytical solutions are difficult or impossible
3. ✖ It requires no random numbers
4. ✖ It is only used for deterministic problems

Question Number : 120 Question Id : 1051315760 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In a PERT network, the time estimate of an activity is as per the following: Optimistic time is 4 days, most likely time is 6 days and pessimistic time is 14 days. The expected time and standard deviation of the activity (in days) are respectively

Options :

1. ✖ 6.0 & 2.76
2. ✖ 6.0 & 3.78
3. ✔ 7.0 & 1.67
4. ✖ 7.0 & 2.76