Telangana State Council Higher Education

Notations :

1.Options shown in green color and with ✔ icon are correct.

2.Options shown in red color and with ✖ icon are incorrect.

Question Paper Name :	Mining Engineering 13th Aug 2021 Shift 1
Subject Name :	Mining Engineering
Creation Date :	2021-08-13 15:04:33
Duration :	120
Total Marks :	120
Display Marks:	Yes
Calculator :	None
Magnifying Glass Required? :	No
Ruler Required? :	No
Eraser Required? :	No
Scratch Pad Required? :	No
Rough Sketch/Notepad Required? :	No
Protractor Required? :	No
Show Watermark on Console? :	Yes
Highlighter :	No
Auto Save on Console? :	Yes

Mining Engineering

Group Number :	1
Group Id :	63643128
Group Maximum Duration :	0
Group Minimum Duration :	120
Show Attended Group? :	No

Edit Attended Group? : No

Break time : 0

Group Marks : 120

Is this Group for Examiner? : No

Mathematics

Section Id : 63643152

Section Number : 1

Section type : Online

Mandatory or Optional : Mandatory

Number of Questions : 10

Number of Questions to be attempted : 10

Section Marks : 10

Enable Mark as Answered Mark for Review and Clear Response : Yes

Sub-Section Number : 1

Sub-Section Id : 63643152

Question Shuffling Allowed : Yes

Question Number : 1 Question Id : 6364313241 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

One of the eigen values of a singular square matrix is

Options :

1. ✖ 3

2. ✖ 2

3. ✖ 1

4. ✔ 0

The number of solutions of the system of linear equations:
$x + y - z = 1$, $2x - 3y + 2z = 5$, $3x - 2y + z = 6$ is

Options :

1. ✔ Infinitely many

2. ✖ 1

3. ✖ 0

4. ✖ 2

$$\lim_{x \to 0} \left(\frac{2^x + 2^{2x} + 2^{3x}}{3} \right)^{1/x} =$$

Options :

1. ✖ 2

2. ✖ 3

3. ✔ 4

4. ✖ 5

Question Number : 4 Question Id : 6364313244 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $a_n = \sum_{k=1}^{n} \frac{k(k+2)}{(k+1)^2}$, then $\lim_{n \to \infty} a_n =$

Options :

1. ✖ 0

2. ✔ 1

3. ✖ 2

4. ✖ 3

Question Number : 5 Question Id : 6364313245 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If C is the curve $x^2 + 16y^2 = 16$, then $\int_C x\,dy - y\,dx =$

Options :

1. ✗ 4π

2. ✗ 6π

3. ✓ 8π

4. ✗ 10π

Question Number : 6 Question Id : 6364313246 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The vector $f = (x + 3y)i + (y - 3z)j + (x - 2z)k$ is

Options :

1. ✓ Solenoidal

2. ✗ Irrotational

3. ✗ Solenoidal and irrotational

4. ✗ Conservative

Question Number : 7 Question Id : 6364313247 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The particular integral of $x^2 y''' - y' = x$ is

Options :

1. ✔ $\dfrac{-x^2}{2}$

2. ✖ $\dfrac{x^2}{2}$

3. ✖ $\dfrac{-x^2}{4}$

4. ✖ $\dfrac{x^2}{4}$

Question Number : 8 Question Id : 6364313248 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If X is a Poisson variate and $P(X = 3) = P(X = 5)$ then $P(X = 0) =$

Options :

1. ✗ e^{-2}

2. ✓ $e^{-2\sqrt{5}}$

3. ✗ e^{2}

4. ✗ $e^{2\sqrt{5}}$

Question Number : 9 Question Id : 6364313249 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $y_0 = 1$, $y_1 = 0.5$, $y_2 = 0.2$, $y_3 = 0.1$, $y_4 = 0.06$, $y_5 = 0.04$ and $y_6 = 0.03$, then the

value of $\int_0^4 y\,dx$ by Simpson's $\dfrac{3}{8}$ rule is

Options :

1. ✓ 0.9075

2. ✗ 0.91

3. ✗ 0.9

4. ✖ 0.905

Question Number : 10 Question Id : 6364313250 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If the solution of $y'' + 4y = 0$, $y(0) = 2$, $y'(0) = 1$ is $a \cos 2x + b \sin 2x$, then $(a, b) =$

Options :

1. ✖ $\left(2, \dfrac{-1}{2}\right)$

2. ✔ $\left(2, \dfrac{1}{2}\right)$

3. ✖ $\left(-2, \dfrac{1}{2}\right)$

4. ✖ $\left(-2, \dfrac{-1}{2}\right)$

Mining Engineering

Question Number : 11 Question Id : 6364313251 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A square pillar in a Bord and Pillar panel is of size 30.0 m centre to centre and the galleries are of width 4.0 m. Then the tributary area of each pillar in m^2 is

Options :

1. ✔ 224

2. ✖ 256

3. ✖ 676

4. ✖ 884

Question Number : 12 Question Id : 6364313252 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Proximate analysis of coal involves determination of the following properties

Options :

1. ✖   Carbon, hydrogen, nitrogen, sulphur content in the coal

2. ✖   Moisture, carbon content, ash content and sulphur

3. ✖   Carbon, ash content, calorific value and sulphur

4. ✔   Moisture, volatile matter, ash content and fixed carbon content

Question Number : 13 Question Id : 6364313253 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

A coal seam is 1.8 m thick, dipping at 1 in 2, lying at depth of 1.450 m. The coal is easily friable and make of water is less. Under these conditions, which one of the following methods is best suitable for winning the deposit

Options :

1. ✖   Longwall advance method

2. ✖   Longwall retreat method

3. ✖   Continuous miner method

4. ✔ Underground Coal gasification

Question Number : 14 Question Id : 6364313254 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

As per CMR, 2017 under Regulation -111, the size of the pillars in the bord and pillar development district depends on

Options :

1. ✖ Width of the gallery and height of the pillar

2. ✖ Width of the gallery and strength of the coal seam

3. ✔ Width of the gallery and depth of cover

4. ✖ Height of the pillar and depth of cover

Question Number : 15 Question Id : 6364313255 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The danger of air blasts in underground mines is maximum with

Options :

1. ✖ Stope and pillar mining

2. ✖ Cut and fill mining

3. ✖ Shrinkage stoping

4. ✔ Blasting gallery method

Question Number : 16 Question Id : 6364313256 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The energy consumed during crushing and grinding is directly proportional to the size reduction ratio. This law is called as

Options :

1. ✖ Rittenger's law

2. ✖ Kick's Law

3. ✔ Bond's Law

4. ✖ Kirchoff's Law

Question Number : 17 Question Id : 6364313257 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Hoolamite is a mixture of

Options :

1. ✔ Iodine pentoxide and sulphuric acid

2. ✖ Manganese dioxide and copper oxide

3. ✖ Iodine pentoxide and copper oxide

4. ✖ Manganese dioxide and sulphuric acid

Question Number : 18 Question Id : 6364313258 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The correct sequence of hardness of minerals according to Moh's hardness scale in descending order is

Options :

1. ✔ Quartz – Apatite – Calcite – Gypsum

2. ✖ Quartz – Apatite – Gypsum – Calcite

3. ✖ Calcite – Apatite – Gypsum – Quartz

4. ✖   Apatite – Quartz – Gypsum – Calcite

Question Number : 19 Question Id : 6364313259 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The common test for _____ gas consists of exposing a filter paper soaked with starch and potassium iodide solution

Options :

1. ✖   Hydrogen sulphide

2. ✔   Nitrogen dioxide

3. ✖   Sulphur dioxide

4. ✖   Ammonia

Question Number : 20 Question Id : 6364313260 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The chemical used in a self rescuer is

Options :

1. ✖   Calcium chloride

2. ✔ Hopcalite

3. ✘ Protosorb

4. ✘ Potassium phosphate

Question Number : 21 Question Id : 6364313261 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Angle of draw is defined as the angle between

Options :

1. ✔ The vertical and the line joining the limit of extraction and point on the surface where vertical subsidence observed is zero or negligible

2. ✘ The vertical and the line joining the limit of extraction and point on the surface where tensile strain observed is maximum

3. ✘ The vertical and the line joining the limit of extraction and point on the surface where compressive strain observed is maximum

4. ✘ The vertical and the line joining the limit of extraction and point on the surface where surface fracture occurs

Question Number : 22 Question Id : 6364313262 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

The approximate value of vertical stress due to super-incumbent strata in coal measure rocks in MPa per metre depth is

Options :

1. ✖ 0.05

2. ✖ 0.04

3. ✖ 0.01

4. ✔ 0.025

Small man clip device is used in

Options :

1. ✔ Endless rope haulage system

2. ✖ Main and tail haulage system

3. ✖ Direct rope haulage system

4. ✖ Mono cable ropeway system

Question Number : 24 Question Id : 6364313264 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Front abutment pressure in a Longwall panel occurs

Options :

1. ✔ At 1 to 3 m ahead of the face in the coal block in the un-excavated region

2. ✖ At the goaf of a longwall panel where full consolidation has taken place

3. ✖ At the barrier pillars along the gate roadways of the panel

4. ✖ At the pillars along the tail gate of the panel

Question Number : 25 Question Id : 6364313265 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The device used for bending the rail to suitable curvature is called as

Options :

1. ✖ Jockey

2. ✔ Jim crow

3. ✖ Monkey catch

4. ✖ Sylvester

Question Number : 26 Question Id : 6364313266 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If the diameter of the winding rope is 25 mm, then the recommended diameter of the winding drum is

Options :

1. ✖ 1.0 m

2. ✖ 1.5 m

3. ✔ 2.5 m

4. ✖ 3.5 m

Question Number : 27 Question Id : 6364313267 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The maximum air consumption of jack hammer in m^3/minute is

Options :

1. ✖ 0.3

2. ✔ 3.0

3. ✖ 2.0

4. ✖ 1.5

Question Number : 28 Question Id : 6364313268 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In hard and brittle rock, the type of drill cut pattern best to more pull is

Options :

1. ✖ Fan cut

2. ✖ Pyramid cut

3. ✔ Burn cut

4. ✖ Wedge cut

Question Number : 29 Question Id : 6364313269 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The elements involved in the preparation of white metal in white metal capel is

Options :

1. ✖ Lead, copper and tin

2. ✔ Lead, antimony and tin

3. ✖ Lead, antimony and zinc

4. ✖ Zinc, antimony and tin

Question Number : 30 Question Id : 6364313270 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Quartzite is a

Options :

1. ✔ Metamorphic rock

2. ✖ Sedimentary rock

3. ✖ Igneous rock

4. ✖ Plutonic rock

Question Number : 31 Question Id : 6364313271 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Coal burns are a panomenon occurring in coal seams

Options :

1. ✖ In shallow coal mines

2. ✔ In deep coal mines

3. ✖ In development in shallow mines

4. ✖ In moderatic deep coal mine

Question Number : 32 Question Id : 6364313272 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Stripping ratio is defined as

Options :

1. ✖ Thickness of the overburden to the thickness of the ore body

2. ✖ Volume of the overburden removed to the volume of the ore mined

3. ✖ Total mass of the ore mined to the volume of the overburden removed

4. ✔ Volume of the overburden removed to the total mass of ore mined

Question Number : 33 Question Id : 6364313273 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A flame safety lamp is used

Options :

1. ✖ To detect spontaneous combustion of coal

2. ✖ For mine illumination

3. ✖ To detect carbon monoxide

4. ✔ To detect methane gas

Question Number : 34 Question Id : 6364313274 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

ANFO is used in

Options :

1. ✖ Small diameter watery holes

2. ✖ Large diameter watery holes

3. ✔ Large diameter dry holes

4. ✖ Underground coal mines

Foam extinguishers are suitable for

Options :

1. ✖ Electrical fires

2. ✔ Liquid fires

3. ✖ Solid fires

4. ✖ Metallic fires

The maximum permissible percentage of CO_2 in underground coal mines is

Options :

1. ✔ 0.5

2. ✖ 0.05

3. ✖   0.75

4. ✖   0.005

Question Number : 37 Question Id : 6364313277 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Identify the correct statement in respect of homotropal ventilation system

Options :

1. ✖   The intake and return air moves in adjacent roadways

2. ✖   The mineral and air moves in opposite direction in the roadway

3. ✔   The mineral and air moves in same direction in the roadway

4. ✖   The ventilation air moves along the boundary of the panel

Question Number : 38 Question Id : 6364313278 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Where the gradient is less than 1 in 6, the manholes in haulage roadways may be provided at intervals not more than _____

Options :

1. ✗ 10 m

2. ✗ 15 m

3. ✓ 20 m

4. ✗ 30 m

Question Number : 39 Question Id : 6364313279 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

For a hilly steeply dipping deposit, the mode of access to the deposit at the valley level is

Options :

1. ✗ Shaft

2. ✓ Adit

3. ✗ Incline

4. ✗ Decline

Question Number : 40 Question Id : 6364313280 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A double tube swivel type core barrel in diamond drilling is used when the

Options :

1. ✖ Rock is moderately hard

2. ✖ Rock is very hard

3. ✖ Core is to be obtained from a shallow depth

4. ✔ Rock is soft

Question Number : 41 Question Id : 6364313281 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

A safety catch in a winding system is used

Options :

1. ✖ To prevent the jerks

2. ✖ To enable smooth landing of the cage

3. ✖ To control over speed

4. ✔ To hold the cage falling into the shaft

Question Number : 42 Question Id : 6364313282 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The internal rate of return (IRR) of a project is the discount rate at which

Options :

1. ✖ Profit after tax is zero

2. ✔ Net present value of the project is zero

3. ✖ Revenue from the project is zero

4. ✖ Profit before tax is zero

Question Number : 43 Question Id : 6364313283 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The type of mining suggested for a steeply inclined 20 m thick ore when the side walls are weak, ore is strong and firm is

Options :

1. ✖ Shrinkage stoping

2. ✖ Room and pillar mining

3. ✔ Cut and fill mining

Sub-level stoping
4. ✖

Question Number : 44 Question Id : 6364313284 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A back sight on a bench mark RL 100.00 m on the floor of a tunnel is 3.25 m. The inverse staff reading on a floor station of the tunnel is 1.25 m. The roof station RL value is _____

Options :

1. ✖ 101.25 m

2. ✔ 104.5 m

3. ✖ 103.25 m

4. ✖ 102.0 m

Question Number : 45 Question Id : 6364313285 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following relationship is correct with reference to mine ventilation

Options :

1. ✖ $P = R / Q^2$

2. ✔ $P = R \, Q^2$

3. ✖ $P = R / Q$

4. ✖ $P = R^2 \, Q$

Question Number : 46 Question Id : 6364313286 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In which type of following ore reserve estimation, the level of confidence is high

Options :

1. ✔ Proved reserves

2. ✖ Indicated reserves

3. ✖ Inferred reserves

4. ✖ Possible reserves

Question Number : 47 Question Id : 6364313287 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In December, 2018, about 22 miners died in an illegal rat-hole coal mine in Meghalaya. The cause of the accident was due to

Options :

1. ✖ Mine fire

2. ✖ Fire damp explosion

3. ✖ Coal dust explosion

4. ✔ Mine inundation

Question Number : 48 Question Id : 6364313288 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Hoskold's formula is used to determine the

Options :

1. ✖ Depreciation of an equipment

2. ✔ Net present value of a mining company

3. ✖ Strength of a coal pillar

4. ✖ Factor of safety of a slope

Question Number : 49 Question Id : 6364313289 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

While working of a contiguous seams, at any time during the extraction, the parting between two adjacent seams should not be less than

Options :

1. ✖ 9.0 m

2. ✖ 7.0 m

3. ✖ 5.0 m

4. ✔ 3.0 m

Question Number : 50 Question Id : 6364313290 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The thickness to diameter ratio of rock samples recommended as per ISRM standards for determining tensile strength of rocks in the laboratory by Brazilian method is

Options :

1. ✖ 2.0

2. ✖ 1.5

3. ✖ 1.0

4. ✔ 0.5

Question Number : 51 Question Id : 6364313291 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Transit theodolite is a

Options :

1. ✖ Micro-optic theodolite

2. ✔ Theodolite with face left and face right facilities

3. ✖ Theodolite with stadia hairs

4. ✖ Theodolite with two vertical circles

Question Number : 52 Question Id : 6364313292 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Surface contour lines and spot level on the mine roadways are to be shown on the underground mine plan to

Options :

1. ✔ Determine the depth of cover

2. ✘ Correlate surface and underground workings

3. ✘ Estimate the thickness of the coal seam

4. ✘ Estimate direction of the true dip of the deposit

Question Number : 53 Question Id : 6364313293 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The main purpose of back filling in a cut and fill stoping method is

Options :

1. ✘ Reduce ore dilution

2. ✔ To prevent high stress concentration in the far field domain

3. ✘ Prevent displacement due to dilution of fractured wall rock

4. ✘ To improve stope ventilation

Question Number : 54 Question Id : 6364313294 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The approximate limiting gradient (with reference to horizontal) for coal (ROM) transport in a belt conveyor system is

Options :

1. ✖ 10^0

2. ✔ 18^0

3. ✖ 30^0

4. ✖ 25^0

Question Number : 55 Question Id : 6364313295 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following type of drilling systems is used while approaching water logged areas in underground mines

Options :

1. ✔ Burnside safety boring apparatus

2. ✖ Down the hole drills

3. ✖ Churn drills

4. ✖ Ordinary coal drills

Question Number : 56 Question Id : 6364313296 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following instruments are permitted to be used for sampling respirable dust in underground mines

Options :

1. ✖ Scrubber

2. ✔ Gravimetric dust samplers

3. ✖ Konimeter

4. ✖ Electrostatic precipitators

Question Number : 57 Question Id : 6364313297 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Grab is used in

Options :

1. ✔ Shaft sinking

2. ✘ Exploratory drilling operations

3. ✘ Loading in faces of opencast mines

4. ✘ Loading in faces of underground mines

Question Number : 58 Question Id : 6364313298 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Keps are used in

Options :

1. ✘ All types of balanced winding systems

2. ✘ Winding in sinking shafts

3. ✘ Koepe winding

4. ✔ Drum winding

Question Number : 59 Question Id : 6364313299 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Kata thermometer is used to determine

Options :

1. ✖ Effective temperature of mine air

2. ✔ Cooling power of mine air

3. ✖ Relative humidity of mine atmospheric air

4. ✖ Underground strata temperature

Question Number : 60 Question Id : 6364313300 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The voltage of signalling system in underground coal mines should not exceed

Options :

1. ✖ 20 V

2. ✖ 25 V

3. ✔ 30 V

4. ✖ 10 V

Question Number : 61 Question Id : 6364313301 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Sub level stoping is used for

Options :

1. ✔ Thick ore deposit

2. ✖ Thin ore deposits

3. ✖ Massive deposits

4. ✖ Reef type deposits

Question Number : 62 Question Id : 6364313302 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The widely practised method of stowing in Indian coal mines is

Options :

1. ✖ Gravity stowing

2. ✖ Mechanical stowing

3. ✔ Hydraulic stowing

4. ✖ Pneumatic stowing

Question Number : 63 Question Id : 6364313303 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The science of obtaining information about an object, area or phenomenon from the data acquired by a device not in contact with it is known as

Options :

1. ✖ Cadastral surveying

2. ✔ Remote sensing

3. ✖ Photogrammetry

4. ✖ Geodetic surveying

Question Number : 64 Question Id : 6364313304 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The voltage supply for portable hand-held electric coal drill machine used in underground coal mine is

Options :

1. ✖ 250 V

2. ✖ 220 V

3. ✔ 125 V

4. ✖ 25 V

Question Number : 65 Question Id : 6364313305 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The purpose of a lid in a prop is to

Options :

1. ✖ Decrease the load on the prop

2. ✖ Hold the prop between roof and floor

3. ✖ Set the prop with ease

4. ✔ Distribute resistance of prop over a slightly wider area than its cross section

Question Number : 66 Question Id : 6364313306 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The strength of the stranded wire rope is proportional to the

Options :

1. ✖ Diameter of the rope

2. ✔ Square of the diameter of the rope

3. ✖ Square root of the diameter of the rope

4. ✖ Perimeter of the rope

Question Number : 67 Question Id : 6364313307 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The ratio of theoretical power input (P_1/P_2) of two centrifugal fans having 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 : 68 Question Id : 6364313308 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The nature of tangential stress develop at the crown of a circular opening for uniaxial in situ stress acting along vertical direction (σ_H=0) condition is

Options :

1. ✔ Tensile

2. ✘ Compressive

3. ✘ Zero

4. ✘ In sufficient data

Question Number : 69 Question Id : 6364313309 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The magnetic bearing of a line is 65^0 30′. If the declination is 4^0 30′ W. Then the true bearing of the line is

Options :

1. ✘ 70^0 0′

2. ✔ 61^0 0′

3. ✘ 63^0 15′

4. ✖ $67^0\ 45'$

Question Number : 70 Question Id : 6364313310 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Vertical ring drilling is carried out in

Options :

1. ✖ Longwall mining

2. ✖ Shrinkage stoping

3. ✖ Cut and fill stoping

4. ✔ Sub level stoping

Question Number : 71 Question Id : 6364313311 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following minerals has highest specific gravity

Options :

1. ✔ Wolframite

2. ✖ Pyrite

3. ✖ Magnetite

4. ✖ Hematite

Question Number : 72 Question Id : 6364313312 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In a self contained breathing apparatus, the wearer can take more oxygen than he gets through the circuit is achieved by operating

Options :

1. ✖ Main valve

2. ✖ Reducing valve

3. ✖ Relief valve

4. ✔ By pass valve

Question Number : 73 Question Id : 6364313313 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The following properties can be determined using triaxial testing of rocks in the laboratory

Options :

1. ✖ Compressive strength and angle of draw

2. ✔ Compressive strength and angle of internal friction

3. ✖ Compressive strength and angle of cohesion

4. ✖ Compressive strength and angle of repose

Question Number : 74 Question Id : 6364313314 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

RMR stands for

Options :

1. ✔ Rock Mass Rating

2. ✖ Rock Mean Rating

3. ✖ Rock Measure Rating

4. ✖ Rock More Rating

Question Number : 75 Question Id : 6364313315 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The explosive limit of methane gas in mine atmosphere is

Options :

1. ✖ 4 to 12%

2. ✖ 1.25 to 4%

3. ✔ 5 to 15%

4. ✖ 0.5 to 4.0%

Question Number : 76 Question Id : 6364313316 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The boundary of a mine is plotted on a scale of 1:2000. If a planimeter measures the plotted area as 100 cm^2 , the actual mine area in m^2 is

Options :

1. ✖ 4,00,000

2. ✖ 2,00,000

3. ✖ 20,000

4. ✔ 40,000

Question Number : 77 Question Id : 6364313317 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If the wet bulb and dry bulb of hygrometer indicate same temperature, then the relative humidity in the atmosphere is

Options :

1. ✖ 0%

2. ✔ 100%

3. ✖ 50%

4. ✖ Data insufficient

Question Number : 78 Question Id : 6364313318 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Permitted explosive is the one

Options :

1. ✔ Specially approved for underground gassy mines and for solid blasting

2. ✖ That are used in underground mines

3. ✖ Which produce less vibrations and noise

4. ✖ Specially approved for surface gassy mines

Question Number : 79 Question Id : 6364313319 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The drum shearer on a longwall face is mounted on

Options :

1. ✖ Its own skid

2. ✖ On a separate track

3. ✔ AFC

4. ✖ Support frame

Question Number : 80 Question Id : 6364313320 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

SSR, as per CMR-2017 means

Options :

1. ✖ Scientific support rules

2. ✖ Scientific support rating

3. ✔ Systematic support rules

4. ✖ Systematic support rating

Question Number : 81 Question Id : 6364313321 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The back bearing of line AB is 266^0 30′. Then its fore bearing would be
_____

Options :

1. ✖ 176^0 30′

2. ✖ 186^0 30′

3. ✔ 86^0 30′

4. ✖ 346^0 30′

Question Number : 82 Question Id : 6364313322 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The specific energy for rock drilling is lowest for _____

Options :

1. ✖ Rotary diamond drilling

2. ✖ Tri-cone roller bit drilling

3. ✔ Percussive drilling

4. ✖ Jet piercing

Question Number : 83 Question Id : 6364313323 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In an experiment to study coal dust explosibility, it is found that at least 3.0 g of limestone dust should be added to a sample of 2.0 g of coal dust to ensure that propagation of flame does not take place. Then the explosibility index of coal dust is

Options :

1. ✖ 0.66

2. ✖ 0.5

3. ✖ 0.33

4. ✔ 1.5

A typical sand : water ratio (by volume) employed in a sand stowing plant in coal mines of India is

Options :

1. ✔ 1 : 2

2. ✖ 1 : 4

3. ✖ 1 : 1

4. ✖ 1 : 6

Burden is the distance between

Options :

1. ✖ Distance between two holes in a same row

2. ✖ Distance between face line and last row of the holes

3. ✔ Distance between the first row of hole and the face line

4. ✖ Diagonal distance between two of holes of adjacent rows

Question Number : 86 Question Id : 6364313326 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Super elevation is the term used for the design of

Options :

1. ✖ Benches

2. ✔ Haul roads

3. ✖ Dumps

4. ✖ Slopes

Question Number : 87 Question Id : 6364313327 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The blasting technique used for controlled throw of overburden is known as

Options :

1. ✔ Cast blasting

2. ✖ Smooth blasting

3. ✖ Cushion basting

4. ✖ Muffled blasting

Question Number : 88 Question Id : 6364313328 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Fly rocks can be controlled by

Options :

1. ✖ Secondary blasting

2. ✖ Tracer blasting

3. ✔ Muffled blasting

4. ✖ Cushion blasting

Question Number : 89 Question Id : 6364313329 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The purpose of evasee in an exhaust fan is to

Options :

1. ✖ To eliminate the recirculation of air

2. ✖ Convert part of static energy into useful kinetic energy

3. ✖ Increase the velocity of air leaving the fan

4. ✔ Convert part of kinetic energy into useful pressure energy

Question Number : 90 Question Id : 6364313330 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The process of crushing and grinding ore into smaller fragments is called

Options :

1. ✖ Fragmentation

2. ✖ Granulating

3. ✖ Pulverizing

4. ✔ Comminution

Question Number : 91 Question Id : 6364313331 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is the ore of tungsten

Options :

1. ✖ Psilomelane

2. ✖ Argentite

3. ✔ Wolframite

4. ✖ Cassiterite

Question Number : 92 Question Id : 6364313332 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

What are stratum contours in connection with coal mines

Options :

1. ✖ Imaginary line joining points of equal elevation selected on the surface

2. ✔ Imaginary line joining points of equal elevation selected along the floor of the coal seam

3. ✖ Imaginary line joining points of equal elevation selected along the roof of the coal seam

Imaginary line joining points of equal elevation selected along the middle of the coal seam

4. ✖

Question Number : 93 Question Id : 6364313333 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Three major steps involved in Mineral Processing in chronological order are

Options :

1. ✖ Liberation, separation and extraction

2. ✔ Crushing, grinding and flotation

3. ✖ Extraction, processing and smelting

4. ✖ Jigging, tabling and flotation

Question Number : 94 Question Id : 6364313334 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following are non-conventional energy resources

Options :

1. ✖ Thermal power plants

2. ✖ Hydro-electric power stations

3. ✖ Nuclear power plants

4. ✔ Solar energy cells

Question Number : 95 Question Id : 6364313335 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which one of the following rocks has maximum compressive strength assuming there are no planes of weakness in the samples

Options :

1. ✔ Granite

2. ✖ Marble

3. ✖ Sandstone

4. ✖ Coal

Question Number : 96 Question Id : 6364313336 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Two particles are called to be equal settling, if they are having same
_____

Options :

1. ✖ Volume

2. ✖ Specific gravity

3. ✔ Terminal velocities in the same fluid and in the same field of force

4. ✖ Shape and size

Question Number : 97 Question Id : 6364313337 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

If a force greater than that of gravity is used to separate solids and fluids of different densities, the process is termed as

Options :

1. ✔ Centrifugation

2. ✖ Flocculation

3. ✖ Flotation

4. ✖ Sedimentation

Question Number : 98 Question Id : 6364313338 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The study on washability of coal is carried out by using _____ technique

Options :

1. ✔ Heavy media separation

2. ✖ Sedimentation

3. ✖ Elutriation

4. ✖ Classification

Question Number : 99 Question Id : 6364313339 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Froth flotation is the most suitable for concentrating

Options :

1. ✖ Iron ores

2. ✔ Sulphide ores

3. ✖ Quartzite

4. ✖ Aluminium ores

Question Number : 100 Question Id : 6364313340 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The chemical that selectively binds to the surface of target mineral particles and imparts hydrophobicity and air bubble attachment in forth flotation process is called as

Options :

1. ✖ Activator

2. ✖ Depressant

3. ✖ Modifier

4. ✔ Collector

Question Number : 101 Question Id : 6364313341 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The process of separation of particles of various sizes, shapes and densities by allowing them to settle in a fluid is called as

Options :

1. ✔ Classification

2. ✖ Froth flotation

3. ✖ Thickening

4. ✖ Clarification

Question Number : 102 Question Id : 6364313342 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Capital gearing with reference to economics is the

Options :

1. ✖ Ratio of equity capital to promoters capital

2. ✖ Ratio of loan capital to equity capital

3. ✔ Ratio of equity capital to loan capital

4. ✖ Ratio of profit earned to capital employed

Question Number : 103 Question Id : 6364313343 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The system of maintaining business transactions in books is called as

Options :

1. ✔ Book keeping

2. ✘ Profit and loss statement

3. ✘ Balance sheet

4. ✘ Revenue and expenditure statement

Question Number : 104 Question Id : 6364313344 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The following is a liability as per accountancy

Options :

1. ✘ Goodwill of a company

2. ✘ Land and buildings owned by the company

3. ✔ Long term financing using issue of ordinary shares

4. ✘ Mining machinery owned by the company

Question Number : 105 Question Id : 6364313345 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The following is categorised as an asset for the company.

Options :

1. ✖ Labour costs

2. ✔ Mineral produced

3. ✖ Overhead of the company

4. ✖ Share premium

Question Number : 106 Question Id : 6364313346 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The following is a method of computing depreciation

Options :

1. ✖ EBIDTA

2. ✖ Budgetary control

3. ✖ Fictitious depreciation

4. ✔ Sinking fund method

Question Number : 107 Question Id : 6364313347 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Salting of an ore is done by

Options :

1. ✖ Adding common salt to the sample

2. ✖ By removing salt from the ore

3. ✔ By mixing substances for increasing the values in the ore samples

4. ✖ By mixing substances for lowering the values in the ore samples

Question Number : 108 Question Id : 6364313348 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The horizontal angle of line that is measured from the reference meridian in clockwise direction is known as

Options :

1. ✖ Zenith

2. ✖ Declination

3. ✖ Nadir

4. ✔ Azimuth

Question Number : 109 Question Id : 6364313349 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Coning and quartering is

Options :

1. ✖ A mining method employed in unconsolidated ground

2. ✖ A mining method employed for diamond mining

3. ✔ A method employed for obtaining laboratory sample from the field

4. ✖ A cut an fill method employed in underground metal mining

Question Number : 110 Question Id : 6364313350 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Powered roof supports are used

Options :

1. ✖ In development of tunnels

2. ✖ In shaft sinking

3. ✔ In mechanised LW mining

4. ✖ In development board & pillar working

Question Number : 111 Question Id : 6364313351 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The tangential stresses acting on principal planes is equivalent to

Options :

1. ✖ Average of maximum and minimum principal stresses

2. ✖ The difference of maximum and minimum principal stresses

3. ✔ Zero

4. ✖ Sum of maximum and minimum principal stresses

Question Number : 112 Question Id : 6364313352 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If principal stresses, σ_1 and σ_2 act on two mutually perpendicular planes, then the normal stress acting on a plane 45^0 to these planes is equivalent to

Options :

1. ✔ $(\sigma_1 + \sigma_2)/2$

2. ✖ $(\sigma_1 - \sigma_2)/2$

3. ✖ zero

4. ✖ $\sqrt{(\sigma_1{}^2 - \sigma_2{}^2)}/2$

Question Number : 113 Question Id : 6364313353 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Identify the wrong statement from the following.

Options :

1. ✖ Principal plane is a plane on which shear stress is zero

2. ✖ The maximum and minimum shear planes are not free of normal stresses

3. ✖ Other than principal planes, on all planes the tangential stresses will be acting

4. ✔ In hydrostatic stress condition, the principal stresses, $\sigma_1 \neq \sigma_2 \neq \sigma_3$

Question Number : 114 Question Id : 6364313354 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The relationship between Young's modulus (E), Bulk Modulus (K) and Poisson's ratio (v) is given by

Options :

1. ✖ $E = 2 K (1 - 2 v)$

2. ✔ $E = 3 K (1 - 2 v)$

3. ✖ $E = 2 K (1 + 2 v)$

4. ✖ $E = 3 K (1 + 2 v)$

Question Number : 115 Question Id : 6364313355 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The machine used for removing well fragmented overburden material from above a coal seam and dumping it directly on the previously de-coaled area is known as

Options :

1. ✔ Dragline

2. ✖ Shovel

3. ✖ Bucket wheel excavator

4. ✖ Spreader

Question Number : 116 Question Id : 6364313356 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The machine suitable for excavating soft and non-sticky material in large quantities is known as

Options :

1. ✖ Shovel

2. ✖ Dragline

3. ✔ Bucket wheel excavator

4. ✖ Surface miner

Question Number : 117 Question Id : 6364313357 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Identify the wrong statement with reference to rock burst in the following

Options :

1. ✖ Rock burst is accompanied by sudden and violent failure of rocks

2. ✔ Coarse texture rocks are more prone for rock bursts

3. ✖ Rock burst increases with depth of mining

4. ✖ The occurrence of rock burst is high in strong rocks

Question Number : 118 Question Id : 6364313358 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Circular slope failure occurs at the following places

Options :

1. ✖ Hard and consolidated dry strata

2. ✖ In a bedded strata

3. ✖ Water bearing hard strata

4. ✔ In loose and unconsolidated strata

Question Number : 119 Question Id : 6364313359 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Multi-point borehole extensometers are used to determine

Options :

1. ✔ Bed separation above the roof of mine openings

2. ✖ The magnitude of floor heaving

3. ✖ Radial deformations of borehole walls

4. ✖ To measure the deformation of rock sample in the laboratory

Question Number : 120 Question Id : 6364313360 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The stoping method where a large part of blasted ore is allowed to accumulate for the purpose of providing working platform for stoping as well as to support the wall rock is known as

Options :

1. ✔ Shrinkage stoping

2. ✖ Cut and fill stoping

3. ✖ Sub-level stoping

4. ✖ Vcr stoping