

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 4th Aug 2022 Shift 1
Subject Name :	Mining Engineering
Creation Date :	2022-08-04 14:16:33
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
Change Font Color :	No
Change Background Color :	No
Change Theme :	No
Help Button :	No
Show Reports :	No
Show Progress Bar :	No

Mining Engineering

Group Number :	1
Group Id :	34058052
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
Examiner permission :	Cant View
Show Progress Bar? :	No

Mathematics

Section Id :	34058096
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
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	34058096
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 3405806121 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

One of the eigen values of $\begin{bmatrix} 4 & 5 & 6 \\ 7 & 8 & 9 \\ 10 & 11 & 12 \end{bmatrix}$ is

Options :

34058024481. ✓ 0

34058024482. ✗ 1

34058024483. ✗ 2

34058024484. ✗ 3

Question Number : 2 Question Id : 3405806122 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

An eigen vector corresponding to eigen value 6 of the matrix $\begin{bmatrix} 1 & 2 & 3 \\ 2 & 3 & 1 \\ 3 & 1 & 2 \end{bmatrix}$ is

Options :

34058024485. ✗ $(-1, 1, 1)$

34058024486. ✓ $(1, 1, 1)$

Question Number : 3 Question Id : 3405806123 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The rank of the matrix $\begin{bmatrix} -1 & 0 & 2 & 1 \\ 2 & 1 & 3 & 2 \\ 0 & 1 & 7 & 4 \\ 1 & 1 & 9 & 5 \end{bmatrix}$ is

Options :

34058024489. ✖ 1

34058024490. ✔ 2

34058024491. ✖ 3

34058024492. ✖ 4

Question Number : 4 Question Id : 3405806124 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$$\lim_{x \rightarrow \frac{\pi}{4}} \left(x - \frac{\pi}{4} \right) \tan 2x =$$

Options :

34058024494. ✖ $\frac{1}{4}$

34058024495. ✔ $-\frac{1}{2}$

34058024496. ✖ $\frac{1}{2}$

Question Number : 5 Question Id : 3405806125 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$$\sum_{n=1}^{\infty} \frac{1}{n(n+1)(n+2)(n+3)} =$$

Options :

34058024497. ✖ $\frac{1}{16}$

34058024498. ✔ $\frac{1}{18}$

34058024499. ✖ $\frac{1}{20}$

34058024500. ✖ $\frac{1}{21}$

Question Number : 6 Question Id : 3405806126 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The directional derivative of $f(x, y) = e^{x+y^2}$ at the point $(0, 1)$ in the direction of $-\vec{i} + \vec{j}$ is

Options :

34058024501. ✖ $\frac{e}{\sqrt{3}}$

34058024502. ✖ $e\sqrt{3}$

34058024503. ✖ $\sqrt{2}e$

34058024504. ✔ $\frac{e}{\sqrt{2}}$

Question Number : 7 Question Id : 3405806127 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Let C be the ellipse $\frac{x^2}{16} + \frac{y^2}{9} = 1$, then $\int_C 3x dy + 2y dx =$

Options :

34058024505. ✖ 6π

34058024506. ✖ 10π

34058024507. ✔ 12π

34058024508. ✖ 14π

Question Number : 8 Question Id : 3405806128 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Using Lagrange's interpolation, the polynomial of smallest degree which passes through (0, 0), (1, 1), and (2, 1) is $y = ax + bx^2$, where $b =$

Options :

34058024509. ✔ $-\frac{1}{2}$ 34058024510. ✖ $\frac{1}{2}$ 34058024511. ✖ $-\frac{1}{4}$ 34058024512. ✖ $\frac{3}{2}$

Question Number : 9 Question Id : 3405806129 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $y_p = ax + b$ is the particular integral of $y'' - y' - 20y = 1 - x$, then $20a + b =$

Options :

34058024513. ✖ $\frac{-1}{100}$

34058024514. ✓ $\frac{-1}{400}$

34058024515. ✗ $\frac{-1}{300}$

34058024516. ✗ $\frac{-1}{200}$

Question Number : 10 Question Id : 3405806130 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

The general solution of $3y'' - 11y' - 4y = 3$ is

Options :

34058024517. ✗ $y = ae^{\frac{-x}{3}} + be^{4x} + \frac{3}{4}$

34058024518. ✗ $y = ae^{\frac{-x}{3}} + be^{4x} + \frac{3}{2}$

34058024519. ✗ $y = ae^{\frac{-x}{3}} + be^{-4x} - \frac{3}{4}$

34058024520. ✓ $y = ae^{\frac{-x}{3}} + be^{4x} - \frac{3}{4}$

Section Id :	34058097
Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	110
Number of Questions to be attempted :	110
Section Marks :	110
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	34058097
Question Shuffling Allowed :	Yes

Question Number : 11 Question Id : 3405806131 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

As per ISRM standards, the recommended weight of the roughly spherical rock lumps to be used for determining the slake durability index in the laboratory is

Options :

34058024521. ✖ Ten rock lumps each weighting 20 to 40 grams subject to a total of 250 to 350 g.

34058024522. ✔ Ten rock lumps each weighting 40 to 60 grams subject to a total of 400 to 600 g.

34058024523. ✖ Ten rock lumps each weighting 70 to 80 grams subject to a total of 750 to 850 g.

34058024524. ✖ Fifteen rock lumps each weighting 30 to 40 grams subject to a total of 500 to 550 g.

Question Number : 12 Question Id : 3405806132 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If the Young's modulus of elasticity is E and Poisson's ratio is ν then the Modulus of rigidity (G) of a rock sample is given by

Options :

34058024525. ✖ $G = \frac{E}{2(1-\nu)}$

34058024526. ✖ $G = \frac{E}{(1-2\nu)}$

34058024527. ✔ $G = \frac{E}{2(1+\nu)}$

34058024528. ✖ $G = \frac{E}{(1+2\nu)}$

Question Number : 13 Question Id : 3405806133 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Protodyaknov index test gives the approximate value of

Options :

34058024529. ✖ Shear strength of rocks

34058024530. ✖ Tensile strength of rocks

34058024532. ✗ Flexural strength of rocks

Question Number : 14 Question Id : 3405806134 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The following parameter is not included in Bieniawski Geo-mechanical rock classification system

Options :

34058024533. ✗ Intact strength of rock

34058024534. ✗ Rock Quality Designation

34058024535. ✗ Ground water condition

34058024536. ✓ Slake Durability index of rock

Question Number : 15 Question Id : 3405806135 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The improved and fast method of removing rock core in exploratory drilling is using

Options :

34058024537. ✗ Burn side safety boring system

34058024539. ✔ Wire line drilling

34058024540. ✖ Churn drilling

**Question Number : 16 Question Id : 3405806136 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

The device used to prevent undue swinging of the bucket in a sinking shaft is

Options :

34058024541. ✔ Rider Arrangement

34058024542. ✖ Rope capel

34058024543. ✖ Detaching hook

34058024544. ✖ Walling scaffold guides

**Question Number : 17 Question Id : 3405806137 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

The method of shaft sinking recommended through loose deposits of sand
up to 20 m from the surface is

Options :

34058024546. ✔ Piling

34058024547. ✖ Tubbing

34058024548. ✖ Pneumatic caisson

Question Number : 18 Question Id : 3405806138 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The ratio of constituents (TNT: AN: Water) in a slurry explosive is

Options :

34058024549. ✖ 20:15:65

34058024550. ✖ 15:20:65

34058024551. ✔ 20:65:15

34058024552. ✖ 65:15:20

Question Number : 19 Question Id : 3405806139 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In an opencast blasting, the bench height is **8 m**, length of sub grade drilling is **1.0 m** the burden and spacing are **6 m** and **5 m**. If the density of the mineral is **1.5 t/m³** and the explosive consumption is **30 kg**, then the approximate powder factor would be

Options :

34058024553. ✓ 12

34058024554. ✗ 5.3

34058024555. ✗ 13.5

34058024556. ✗ 6.0

Question Number : 20 Question Id : 3405806140 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

The equivalent resistance of three similar roadways of $0.09 \text{ N s}^2 \text{ m}^{-8}$ resistance connected in parallel is

Options :

34058024557. ✗ $0.27 \text{ N s}^2 \text{ m}^{-8}$

34058024558. ✗ $0.03 \text{ N s}^2 \text{ m}^{-8}$

34058024559. ✗ $0.0033 \text{ N s}^2 \text{ m}^{-8}$

34058024560. ✓ $0.01 \text{ N s}^2 \text{ m}^{-8}$

Question Number : 21 Question Id : 3405806141 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A centrifugal fan produces $7,200 \text{ m}^3/\text{min}$ of air at a pressure of 20 mm of Wg, then the Air Horse Power generated by the fan is given as

Options :

34058024561. ✖ 24

34058024562. ✔ 32

34058024563. ✖ 144

34058024564. ✖ 72

Question Number : 22 Question Id : 3405806142 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The bearing of line AB and BC are 210° and 80° respectively. Then the included angle $\angle ABC$ is

Options :

34058024565. ✔ 50°

34058024566. ✖ 130°

34058024567. ✖ 70°

34058024568. ✖

Question Number : 23 Question Id : 3405806143 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The first fully mechanised longwall face with powered supports was introduced in India is

Options :

34058024569. ✓ Moonidih colliery

34058024570. ✗ Sudamdih colliery

34058024571. ✗ Jitpur colliery

34058024572. ✗ Chasnallah Colliery

Question Number : 24 Question Id : 3405806144 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The type of stone dust barriers recommended for Indian coal mines is

Options :

34058024573. ✗ Indian type

34058024574. ✗ British type

34058024575. ✖ German type

34058024576. ✔ Polish type

Question Number : 25 Question Id : 3405806145 Question Type : MCQ Option Shuffling : Yes
 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
 : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Graham's ratio is defined as

Options :

34058024577. ✔ $\frac{\text{CO Produced \%}}{\text{O}_2 \text{ Consumed \%}} \times 100$

34058024578. ✖ $\frac{\text{CO produced \%}}{\text{Nitrogen increase \%}} \times 100$

34058024579. ✖ $\frac{\text{CO}_2 \text{ produced \%}}{\text{oxygen deficiency \%}} \times 100$

34058024580. ✖ $\frac{\text{methane produced \%}}{\text{oxygen deficiency \%}} \times 100$

Question Number : 26 Question Id : 3405806146 Question Type : MCQ Option Shuffling : Yes
 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
 : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Based on Coward Inflammability diagram, a methane and air mixture containing 9.5% methane and 20% oxygen can be classified as

34058024581. ✖ Not capable of forming explosive mixture with air

34058024582. ✖ Explosive

34058024583. ✔ Mixture which cannot be produced from methane and air

34058024584. ✖ Capable of forming explosive mixture with air

Question Number : 27 Question Id : 3405806147 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

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

Options :

34058024585. ✔ Net Present Value of all cash flows is zero

34058024586. ✖ Net Present Value of all cash flows is maximum

34058024587. ✖ Net Present Value of all cash flows is minimum

34058024588. ✖ Net Present Value of all cash flows is optimum

Question Number : 28 Question Id : 3405806148 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Hoolamite tube is used to detect gas

34058024589. ✖ CH₄

34058024590. ✔ CO

34058024591. ✖ SO₂

34058024592. ✖ H₂S

Question Number : 29 Question Id : 3405806149 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A self rescuer is a / an

Options :

34058024593. ✖ Fresh air breathing apparatus

34058024594. ✖ Reviving apparatus

34058024595. ✖ Self contained breathing apparatus

34058024596. ✔ Escape apparatus

Question Number : 30 Question Id : 3405806150 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

What is an under set prop

34058024597. ✖ A prop which is not fully tightened to the roof

34058024598. ✖ A vertical prop set normal to the seam inclination

34058024599. ✖ A prop which tightened at the bottom

34058024600. ✔ A prop which is so set that its axis is between the vertical and normal to the seam

Question Number : 31 Question Id : 3405806151 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The air velocity in a ventilation duct is measured by

Options :

34058024601. ✖ Hot wire anemometer

34058024602. ✔ Pitot static tube

34058024603. ✖ Vane anemometer

34058024604. ✖ Smoke cloud method

Question Number : 32 Question Id : 3405806152 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Options :

34058024605. ✖ Piling

34058024606. ✖ Pneumatic caisson

34058024607. ✖ Freezing

34058024608. ✔ Cementation

Question Number : 33 Question Id : 3405806153 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The chemical used in the test tube to measure the deviation of boreholes in exploratory drilling is

Options :

34058024609. ✖ Sulphuric acid

34058024610. ✖ Nitric acid

34058024611. ✔ Hydrofluoric acid

34058024612. ✖ Acetic acid

Question Number : 34 Question Id : 3405806154 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

The maximum permissible quantity of CO in underground mine atmosphere is

Options :

34058024613. ✖ 0.05%

34058024614. ✖ 0.5%

34058024615. ✔ 0.005%

34058024616. ✖ 0.0005%

Question Number : 35 Question Id : 3405806155 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Antitropical ventilation means

Options :

34058024617. ✖ The mineral and ventilating air move in the same direction

34058024618. ✔ The mineral and ventilating air move in the opposite direction

34058024619. ✖ The intake air flows unidirectional from the intake to return through Workings

34058024620. ✖ The intake and return air from any district travel in opposite direction through parallel roadways

Question Number : 36 Question Id : 3405806156 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time :

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Pressure equalisation by constructing pressure chamber is a method to Control

Options :

34058024621. ✖ Fire damp explosion

34058024622. ✔ Mine fires

34058024623. ✖ Coal dust explosion

34058024624. ✖ Recirculation mine air

Question Number : 37 Question Id : 3405806157 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time :

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The vibrations produced due to blasting primarily consist of

Options :

34058024625. ✖ Only body waves

34058024626. ✖ Only surface waves

34058024627. ✔ Both body and surface waves

34058024628. ✖ Only air waves

Question Number : 38 Question Id : 3405806158 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Self generating oxygen breathing apparatus used in mine rescue uses the following chemical to absorb CO_2

Options :

34058024629. ✖ Potassium Nitrate

34058024630. ✖ Sodium Hydroxide

34058024631. ✖ Sodium phosphate

34058024632. ✔ Potassium tetroxide

Question Number : 39 Question Id : 3405806159 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If **P** is the failure load and **D** is the diameter of the rock sample, then, the Point Load Index (**PLI**) of a rock sample is calculated as per the following Equation

Options :

34058024633. ✖ $\frac{P}{\pi D^2/4}$

34058024634. ✔ P/D^2

34058024635. ✖ $2 P/ D^2$

Question Number : 40 Question Id : 3405806160 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Hydraulic fracturing test is used to measure

Options :

34058024637. ✖ Leg pressure in longwall supports

34058024638. ✔ In situ stresses in the rock

34058024639. ✖ In situ tensile strength of coal pillars

34058024640. ✖ Bending strength of coal pillars

Question Number : 41 Question Id : 3405806161 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Direct rope haulage is best suited for _____

Options :

34058024641. ✖ Level ground

34058024642. ✖ Undulating gradient

34058024643. ✔ Steep gradient

34058024644. ✖ Undulating and steep gradient

Question Number : 42 Question Id : 3405806162 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

As per CMR, 2017, the haulage ropes have to recapped at least once in ____

Options :

34058024645. ✖ a year

34058024646. ✔ Six months

34058024647. ✖ 3 ½ years

34058024648. ✖ 1 ½ years

Question Number : 43 Question Id : 3405806163 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

What inference can be drawn when contour lines lie far apart

Options :

34058024649. ✖ Depressed land

34058024650. ✖ Slope of the land is steep

34058024651. ✔ Land is gently sloping

34058024652. ✖ Ridge

Question Number : 44 Question Id : 3405806164 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

GIS stands for

Options :

34058024653. ✖ Global information system

34058024654. ✖ Geological Information system

34058024655. ✔ Geographical Information system

34058024656. ✖ Group Information system

Question Number : 45 Question Id : 3405806165 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In Mahabir Colliery of ECL on 13.11.1989, 65 trapped persons were rescued from underground with help of rocket shaped metal capel. The incident occurred due to

Options :

34058024657. ✖ Explosion

34058024658. ✔ Inundation

34058024659. ✖ Mine fire

34058024660. ✖ Failure of Longwall face

Question Number : 46 Question Id : 3405806166 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The factor of safety used in the design of winding rope is

Options :

34058024661. ✖ 100

34058024662. ✖ 2

34058024663. ✖ 5

34058024664. ✔ 10

Question Number : 47 Question Id : 3405806167 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Froth flotation technique involves

Options :

34058024665. ✔ Separation of hydrophobic minerals from hydrophilic materials

34058024666. ✖ Separation of minerals using difference of their specific gravities

34058024667. ✖ Separation of minerals using the size of the minerals

34058024668. ✖ Separation of minerals using the shape of the minerals

Question Number : 48 Question Id : 3405806168 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Maximum damage to haulage rope caused due to

Options :

34058024669. ✖ Fatigue

34058024670. ✖ Corrosion

34058024671. ✔ Wear and tear

34058024672. ✖ Mine climate

Question Number : 49 Question Id : 3405806169 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The Rock mass classification systems that consider 'active stress' factor is

Options :

34058024673. ✔ Q-system

34058024675. ✖ RQD

34058024676. ✖ GIS

Question Number : 50 Question Id : 3405806170 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The velocity of the wave type that determines the 'rippability' of rock mass is

Options :

34058024677. ✖ S wave

34058024678. ✖ Love wave

34058024679. ✖ Back wave

34058024680. ✔ P wave

Question Number : 51 Question Id : 3405806171 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

India's coal production during the year 2021-22 has touched more than

Options :

34058024681. ✔ 770 million tonnes

34058024682. ✖ 622 million tonnes

34058024683. ✖ 555 million tonnes

34058024684. ✖ 450 million tonnes

**Question Number : 52 Question Id : 3405806172 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Dividend is distributed to the following type of investors

Options :

34058024685. ✖ Company depositors

34058024686. ✖ Credit holders

34058024687. ✔ Ordinary share holders

34058024688. ✖ Debenture holders

**Question Number : 53 Question Id : 3405806173 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Balance sheet is a financial statement depicting

Options :

34058024690. ✖ Profit and loss statement of a company

34058024691. ✔ Assets and liabilities of a company

34058024692. ✖ Financial budget of a company

**Question Number : 54 Question Id : 3405806174 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

The following form of ore reserve estimation makes basis for preparation of Detailed Project Report for exploitation of ore reserves.

Options :

34058024693. ✖ Inferred reserves

34058024694. ✔ Measured reserves

34058024695. ✖ Indicated reserves

34058024696. ✖ Possible reserves

**Question Number : 55 Question Id : 3405806175 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

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Which Indian state is the largest producer of Chromite

Options :

34058024697. ✖ Madhya Pradesh

34058024698. ✖ Chattisgarh

34058024699. ✖ Jharkhand

34058024700. ✔ Odisha

Question Number : 56 Question Id : 3405806176 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The mining equipment which does not incorporate a loading assembly is

Options :

34058024701. ✔ Dint header

34058024702. ✖ Road header

34058024703. ✖ Continuous miner

34058024704. ✖ Gathering arm loader

Question Number : 57 Question Id : 3405806177 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Clifton pulley is used in

Options :

34058024705. ✖ Belt conveyors

34058024706. ✖ Aerial ropeways

34058024707. ✔ Endless rope haulage

34058024708. ✖ Scraper haulage

Question Number : 58 Question Id : 3405806178 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The primary purpose of cut holes for blasting in an underground drivage is

Options :

34058024709. ✖ To reduce noise

34058024710. ✖ To percent over-breakage

34058024711. ✖ To create smooth surface after blasting

34058024712. ✔ To provide free face additionally

Question Number : 59 Question Id : 3405806179 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

Correct Marks : 1 Wrong Marks : 0

As per CMR 2017, in underground mines, the percentage of inflammable gas in the general body of the return air of any ventilating district should not exceed

Options :

34058024713. ✖ 1.25

34058024714. ✔ 0.75

34058024715. ✖ 0.5

34058024716. ✖ 4.8

Question Number : 60 Question Id : 3405806180 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

What is a day as per Mines Act 1952

Options :

34058024717. ✖ A period of 24 hours beginning from sun rise

34058024718. ✖ A period of 24 hours beginning at first shift of the mine

34058024719. ✔ A period of 24 hours beginning at mid night

34058024720. ✖ A period of 24 hours beginning as decided by the mine managements

Question Number : 61 Question Id : 3405806181 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Over winding of cage in an underground shaft is prevented by an appliance
Called

Options :

34058024721. ✓ Detaching hook

34058024722. ✗ Safety catch

34058024723. ✗ Headgear sheave

34058024724. ✗ Keps

Question Number : 62 Question Id : 3405806182 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The type of roof bolts used in watery holes is

Options :

34058024725. ✗ Slot and wedge

34058024726. ✗ Perfo bolt

34058024727. ✗ Expansion shell type

Question Number : 63 Question Id : 3405806183 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

As per CMR, in every underground mine, there should be two means of egress separated from one another at a distance of at least

Options :

34058024729. ✗ 9 m

34058024730. ✗ 20 m

34058024731. ✓ 13.5 m

34058024732. ✗ 30 m

Question Number : 64 Question Id : 3405806184 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

As per mines Regulations, the minimum age of the Mine Manager should be

Options :

34058024733. ✗ 21 years

34058024734. ✓ 23 years

34058024735. ✗ 25 years

34058024736. ✖ No age limit

Question Number : 65 Question Id : 3405806185 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The following is the method of determining tensile strength of rocks as per ISRM standards

Options :

34058024737. ✖ Direct tensile test

34058024738. ✖ Modulus of rupture test

34058024739. ✖ Ring test

34058024740. ✔ Brazilian test

Question Number : 66 Question Id : 3405806186 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Cassiterite is an ore of

Options :

34058024741. ✖ Platinum

34058024742. ✔ Tin

34058024743. ✖

34058024744. ✖ Mercury

Question Number : 67 Question Id : 3405806187 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

World's second largest producer of coal is

Options :

34058024745. ✖ Australia

34058024746. ✖ USA

34058024747. ✖ Russia

34058024748. ✔ India

Question Number : 68 Question Id : 3405806188 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Identify the type of slope failure in waste dumps

Options :

34058024749. ✖ Planar

34058024750. ✖ wedge

34058024751. ✓ Circular

34058024752. ✗ Toppling

Question Number : 69 Question Id : 3405806189 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Unit for measurement of Blast induced ground vibrations is

Options :

34058024753. ✗ decibels

34058024754. ✓ mm/sec

34058024755. ✗ Hertz

34058024756. ✗ mm/sec²

Question Number : 70 Question Id : 3405806190 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A mine safety lamp is used to detect

Options :

34058024757. ✗ Percentage of methane

34058024759. ✖ Percentage of carbon monoxide

34058024760. ✔ Option 1 and 2 only

Question Number : 71 Question Id : 3405806191 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The minimum safe distance to be maintained during the drilling of advance boreholes while approaching water logged workings in underground mines is

Options :

34058024761. ✔ 3.0 m

34058024762. ✖ 2.5 m

34058024763. ✖ 2.0 m

34058024764. ✖ 1.5 m

Question Number : 72 Question Id : 3405806192 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The atmospheric condition behind the isolation stoppings (except in case of explosion proof stoppings and unit to seal off goaf) shall be ascertained at least once in every _____ days

34058024765. ✖ 15 days

34058024766. ✔ 30 days

34058024767. ✖ 45 days

34058024768. ✖ 90 days

Question Number : 73 Question Id : 3405806193 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The term “alidade” is associated with

Options :

34058024769. ✖ Chain surveying

34058024770. ✖ Photogrammetry

34058024771. ✔ Plane table surveying

34058024772. ✖ Total Station

Question Number : 74 Question Id : 3405806194 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Options :

34058024773. ✖ The distance between the roof and surface

34058024774. ✖ The elevation of the underground point from the MSL

34058024775. ✖ The parting thickness between two successive seams

34058024776. ✔ Depth of the underground workings

Question Number : 75 Question Id : 3405806195 Question Type : MCQ Option Shuffling : Yes
 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
 : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Identify the correction to departure of any side in traversing

Options :

 34058024777. ✔ Correction = total error in departure x $\frac{\text{length of side to be corrected}}{\text{perimeter of the traverse}}$

 34058024778. ✖ Correction = total error in departure x $\frac{\text{length of side to be corrected}}{\text{arithmetic sum of all latitudes}}$

 34058024779. ✖ Correction = total error in departure x $\frac{\text{length of side to be corrected}}{\text{arithmetic sum of all departures}}$

 34058024780. ✖ Correction = total error in departure x $\frac{\text{departure of side to be corrected}}{\text{sum of all latitudes of traverse}}$

Question Number : 76 Question Id : 3405806196 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The sum of exterior angles of a closed traverse of N sides is equivalent to

Options :

34058024781. ✖ $(N - 1) \times 90^0$

34058024782. ✖ $(2N - 4) \times 90^0$

34058024783. ✔ $(2N + 4) \times 90^0$

34058024784. ✖ $(N + 1) \times 180^0$

Question Number : 77 Question Id : 3405806197 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The angle between observer meridian and declination circle is given by

Options :

34058024785. ✖ Nautical angle

34058024786. ✔ Hour angle

34058024787. ✖ Right angle

34058024788. ✖ Declination angle

Question Number : 78 Question Id : 3405806198 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

Rittinger's law of crushing states that

Options :

34058024789. ✖ Energy required to reduce the size of particle is proportional to the square of the volume ratio of the feed and product

34058024790. ✖ For a given machine and feed, the crushing efficiency is dependent on the size of the feed and product

34058024791. ✔ Work required for crushing the particles is proportional to the new surface created

34058024792. ✖ Energy required to reduce the size of particle is proportional to the square root of the volume ratio of the feed and product

Question Number : 79 Question Id : 3405806199 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

The method of separating mixtures of minerals into two or more products on the basis of the velocity with which the grains fall through a fluid medium is called as

Options :

34058024793. ✖ Thickening

34058024794. ✔ Classification

34058024795. ✖ Jigging

34058024796. ✖ Tabling

Question Number : 80 Question Id : 3405806200 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The process of settlement of solids in suspension under the influence of gravity in a tank to form a thick pulp is called as

Options :

34058024797. ✖ Dense media separation

34058024798. ✖ Classification

34058024799. ✖ Conditioning

34058024800. ✔ Thickening

Question Number : 81 Question Id : 3405806201 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The process of mineral separation by flowing a stream of liquid-suspended material over a screen and subjecting the screen to a vertical hydraulic pulsation is called as

Options :

34058024802. ✔ Jigging

34058024803. ✖ Flotation

34058024804. ✖ Dense media separation

**Question Number : 82 Question Id : 3405806202 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

The mineral used in heavy media separation of coal washing is

Options :

34058024805. ✖ Quartz

34058024806. ✖ Baryte

34058024807. ✔ Magnetite

34058024808. ✖ Hematite

**Question Number : 83 Question Id : 3405806203 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Rutile is an ore of metal

Options :

34058024810. ✔ Titanium

34058024811. ✖ Germanium

34058024812. ✖ Zircon

**Question Number : 84 Question Id : 3405806204 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

To manage is to forecast and plan, to organize, to compound, to co-ordinate and to control. This definition was given by _____

Options :

34058024813. ✖ Peter F. Drucker

34058024814. ✔ Henry Fayol

34058024815. ✖ Karl Marx

34058024816. ✖ Stewart

**Question Number : 85 Question Id : 3405806205 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

For determining RQD of rock mass, the rock core lengths of more than _____ are considered.

Options :

34058024817. ✖ 5 cm

34058024818. ✔ 10 cm

34058024819. ✖ 12.5 cm

34058024820. ✖ 15 cm

Question Number : 86 Question Id : 3405806206 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Side discharge loaders (SDL) used in underground coalmines are _____

Options :

34058024821. ✖ Wheel mounted

34058024822. ✖ Tyre mounted

34058024823. ✔ Crawler mounted

34058024824. ✖ Skid mounted

Question Number : 87 Question Id : 3405806207 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which among the following geological features, the older rocks occur relatively at shallow depths over younger ones

Options :

34058024825. ✖ Normal fault

34058024826. ✔ Reverse fault

34058024827. ✖ anticline

34058024828. ✖ Unconformity

Question Number : 88 Question Id : 3405806208 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A water garland is constructed during

Options :

34058024829. ✖ Hydraulic mining

34058024830. ✖ Creating a box cut in opencast mining

34058024831. ✖ Tunnel driving

34058024832. ✔ Shaft sinking

Question Number : 89 Question Id : 3405806209 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The coal formed in the north eastern region of India belong to

Options :

34058024833. ✓ Tertiary period

34058024834. ✗ Permian period

34058024835. ✗ Gondwana period

34058024836. ✗ Cretaceous period

Question Number : 90 Question Id : 3405806210 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Pressure bumps in underground coal mines occur due to

Options :

34058024837. ✗ Yielding of pillars

34058024838. ✗ Sudden release of energy due to blasting

34058024839. ✗ Failure of massive strong strata rupture in the overlying strata

34058024840. ✓ Direct failure of overstressed coal pillars

Question Number : 91 Question Id : 3405806211 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Identify the symptom of impending roof fall in a depillaring district

Options :

34058024841. ✓ The prop when tapped with a stick produces a dull sound

34058024842. ✗ The prop when tapped with a stick produces a ringing sound

34058024843. ✗ Loosening of prop

34058024844. ✗ Sweating of coal pillars takes place

Question Number : 92 Question Id : 3405806212 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Identify the suitable method of stoping in which production can be increased using induced blasting technique

Options :

34058024845. ✗ Sub level stoping

34058024846. ✗ Square set stoping

34058024847. ✗ Cut and fill stoping

Question Number : 93 Question Id : 3405806213 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

During the extraction pillars in Bord and Pillar method of mining, the reduction of pillars is permitted up to a distance of _____

Options :

34058024849. ✓ Two pillars

34058024850. ✗ Four pillars

34058024851. ✗ Three pillars

34058024852. ✗ One pillar

Question Number : 94 Question Id : 3405806214 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The maximum life of winding rope in years is

Options :

34058024853. ✗ 3.0

34058024854. ✓ 3.5

34058024855. ✗ 2.0

34058024856. ✖ 5.0

Question Number : 95 Question Id : 3405806215 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which is not an underground metal mining method

Options :

34058024857. ✔ Wongowalli method

34058024858. ✖ Sub-level stoping method

34058024859. ✖ Cut and Fill mining

34058024860. ✖ VCR mining

Question Number : 96 Question Id : 3405806216 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A vertical opening driven downwards connecting two levels in an mine is called as

Options :

34058024861. ✖ Drift

34058024862. ✖ Cross cut

34058024864. ✗ Raise

Question Number : 97 Question Id : 3405806217 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Mineral industry approximately contributes _____ % of GDP in Indian national economy in the year 2021

Options :

34058024865. ✗ 1.2

34058024866. ✓ 2.5

34058024867. ✗ 5.5

34058024868. ✗ 8.6

Question Number : 98 Question Id : 3405806218 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which is the leading state in Mica production in India

Options :

34058024869. ✓ Andhra Pradesh

34058024870. ✗ Bihar

34058024871. ✖ Jharkhand

34058024872. ✖ Rajasthan

Question Number : 99 Question Id : 3405806219 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Majority of the accidents in Indian underground mines is caused due to

Options :

34058024873. ✔ Roof fall

34058024874. ✖ Inundation

34058024875. ✖ Gas explosion

34058024876. ✖ Mine fires

Question Number : 100 Question Id : 3405806220 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The process of extraction of soluble metal compounds by reaction with acid or basic solvents or water is called as

Options :

34058024877. ✖ Hydraulicking

34058024879. ✗ Dredging

34058024880. ✗ Placer mining

Question Number : 101 Question Id : 3405806221 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The motive power for the jack hammer is derived from

Options :

34058024881. ✗ Electrical power

34058024882. ✗ Diesel power

34058024883. ✓ Compressed air

34058024884. ✗ Hydraulic power

Question Number : 102 Question Id : 3405806222 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

With reference to shaft sinking, a brine solution is made of

Options :

34058024885. ✓ Calcium chloride

34058024886. ✖ Magnesium chloride

34058024887. ✖ Ammonium chloride

34058024888. ✖ Sodium chloride

Question Number : 103 Question Id : 3405806223 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Staggered junctions in underground panel development faces which of the following problems.

Options :

34058024889. ✖ Difficulty in setting props

34058024890. ✔ Problem in laying transport system

34058024891. ✖ Problem in drilling and blasting

34058024892. ✖ Difficulty in ventilation survey

Question Number : 104 Question Id : 3405806224 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Identify the type of mechanical stowing from the following

Options :

34058024894. ✔ Throwing belts

34058024895. ✖ Chamber type stowing machines

34058024896. ✖ Stowing by underground boreholes

**Question Number : 105 Question Id : 3405806225 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

In India, coal seams having a thickness of _____ are termed as thick seams.

Options :

34058024897. ✖ 3.0 m and more

34058024898. ✖ 9.0 m and more

34058024899. ✔ 4.8 m and more

34058024900. ✖ 1.5 m and more

**Question Number : 106 Question Id : 3405806226 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Options :

34058024901. ✖ Side falls
34058024902. ✔ Dumpers and trucks
34058024903. ✖ Fall of persons and objects
34058024904. ✖ Opencast machinery other than dumpers and trucks

Question Number : 107 Question Id : 3405806227 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The gradation of non-coking coal in India is based on

Options :

34058024905. ✖ Ash content alone
34058024906. ✖ Ash and moisture content alone
34058024907. ✖ Ash, moisture and gross calorific value
34058024908. ✔ Gross Calorific Value (GCV) alone

Question Number : 108 Question Id : 3405806228 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

Correct Marks : 1 Wrong Marks : 0

Identify the most appropriate formula to estimate the compressive strength of underground coal pillars.

Options :

34058024909. ✖ Brady's formula

34058024910. ✔ Salamon's formula

34058024911. ✖ Aldis formula

34058024912. ✖ Coulomb formula

Question Number : 109 Question Id : 3405806229 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Identify the controlled blasting technique among the following

Options :

34058024913. ✖ Hydraulic fracturing

34058024914. ✔ Line drilling and pre splitting

34058024915. ✖ Blasting by using permitted explosives

34058024916. ✖ Blasting by using slurry explosives

Question Number : 110 Question Id : 3405806230 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The purpose of the triggered water barriers in underground coal mines is _____

Options :

34058024917. ✖ To control mine inundation

34058024918. ✖ To control mine fires

34058024919. ✔ To control coal dust explosions

34058024920. ✖ To control fire damp explosions

Question Number : 111 Question Id : 3405806231 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Lang's Lay means

Options :

34058024921. ✖ Laying of concentric sheaths of wires in one direction around a central wire

34058024922. ✖ Laying of individual wires to form a single stranded rope

34058024923. ✖ The wires and strands are wound in opposite direction

34058024924. ✔ The wires and strands are wound in the same direction

Question Number : 112 Question Id : 3405806232 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The unit for measurement of illumination is

Options :

34058024925. ✖ Candela

34058024926. ✖ Steradian

34058024927. ✔ Lux

34058024928. ✖ Lumen

Question Number : 113 Question Id : 3405806233 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The main advantage of nonel initiating systems in blasting is

Options :

34058024929. ✖ Delays can be set in increments of 1 to 6000 ms

34058024930. ✖ A pre determined firing pattern can be programmed in advance

34058024931. ✔ Not affected by stray electric current or electric hazard

34058024932. ✖ Very cheap compared to detonating tube

Question Number : 114 Question Id : 3405806234 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Hirschbach method is a technique used in

Options :

34058024933. ✖ Shaft correlation

34058024934. ✖ collecting gas samples from sealed off areas

34058024935. ✖ Stoping method

34058024936. ✔ Methane drainage

Question Number : 115 Question Id : 3405806235 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Accumulation test is conducted for

Options :

34058024937. ✖ Determining the circuit connectivity before blasting

34058024938. ✔ Determining the presence of gas using flame safety lamp

34058024939. ✖ Determining the percentage of gas using flame safety lamp in mine atmosphere

34058024940. ✖ Determining the status of fire in the sealed off areas

Question Number : 116 Question Id : 3405806236 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Kriging is method of _____

Options :

34058024941. ✖ Determining factor of safety of a ultimate pit limit

34058024942. ✔ Spatial interpolation technique used in ore body modelling

34058024943. ✖ Determining the overall life of a mine

34058024944. ✖ Determining structural parameter of a mineral deposit

Question Number : 117 Question Id : 3405806237 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The base charge in an electric detonator consists of

Options :

34058024945. ✖ Lead azide

34058024946. ✖ Lead styphnate

34058024947. ✖ Nitroglycerin

34058024948. ✔ PETN

Question Number : 118 Question Id : 3405806238 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Discounted cash flow analysis is performed to determine

Options :

34058024949. ✖ Amortization of equipment

34058024950. ✔ IRR

34058024951. ✖ Net present value of a company

34058024952. ✖ Depreciation of mining machineries used in the company

Question Number : 119 Question Id : 3405806239 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In hydraulic stowing, the ratio of sand to water (by volume) generally used in the slurry is

Options :

34058024953. ✖ 1:1

34058024954. ✖ 1:5

34058024955. ✖ 2:1

34058024956. ✔ 1:2

**Question Number : 120 Question Id : 3405806240 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Low shock and high detonation pressure explosive is generally used in

Options :

34058024957. ✖ Hard and jointed rock mass

34058024958. ✖ Soft and unconsolidated rocks

34058024959. ✔ Hard and massive intact rock mass

34058024960. ✖ Soft and massive intact rock mass