

**tscte**

<b>Question Paper Name:</b>	Mining Engineering 28th May 2019 Shift 1
<b>Subject Name:</b>	Mining Engineering
<b>Creation Date:</b>	2019-05-27 18:29:20
<b>Duration:</b>	120
<b>Total Marks:</b>	120
<b>Display Marks:</b>	No
<b>Share Answer Key With Delivery Engine:</b>	Yes
<b>Actual Answer Key:</b>	Yes

**Mining Engineering**

<b>Group Number :</b>	1
<b>Group Id :</b>	39090033
<b>Group Maximum Duration :</b>	0
<b>Group Minimum Duration :</b>	120
<b>Revisit allowed for view? :</b>	No
<b>Revisit allowed for edit? :</b>	No
<b>Break time:</b>	0
<b>Group Marks:</b>	120

**Mathematics**

<b>Section Id :</b>	39090061
<b>Section Number :</b>	1
<b>Section type :</b>	Online
<b>Mandatory or Optional:</b>	Mandatory
<b>Number of Questions:</b>	10
<b>Number of Questions to be attempted:</b>	10
<b>Section Marks:</b>	10
<b>Display Number Panel:</b>	Yes
<b>Group All Questions:</b>	No

<b>Sub-Section Number:</b>	1
<b>Sub-Section Id:</b>	39090061
<b>Question Shuffling Allowed :</b>	Yes

**Question Number : 1 Question Id : 3909003841 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes**  
**Single Line Question Option : No Option Orientation : Vertical**  
**Correct Marks : 1 Wrong Marks : 0**

**Which of the following statement is true?**

**Options :**

1. If  $\lambda$  is an eigen value of the matrix  $A$  then  $\lambda$  is also an eigen value  $A^T$
2. If  $\lambda$  is an eigen value of non-singular matrix  $A$  then  $\frac{|A|}{\lambda}$  is an eigen value  $\text{adj } A$
3. If  $\lambda$  is an eigen value of an orthogonal matrix  $A$  then  $\frac{1}{\lambda}$  is also an eigen value
4. All the three options are true

Question Number : 2 Question Id : 3909003842 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Inverse of the matrix  $A = \begin{bmatrix} 1 & 2 & 3 \\ 2 & -1 & 4 \\ 3 & 1 & -1 \end{bmatrix}$  is

Options :

1.  $\frac{1}{40}[A^2 + A - 18I]$
2.  $\frac{1}{40}[A^2 + A + 18I]$
3.  $\frac{1}{40}[A^2 - A - 18I]$
4.  $\frac{1}{40}[A^2 - 18I]$

Question Number : 3 Question Id : 3909003843 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The series  $\frac{2!}{3} + \frac{3!}{3^2} + \frac{4!}{3^3} + \dots + \frac{(n+1)!}{3^n} + \dots$  is

Options :

1. Conditionally convergent
2. Absolutely convergent
3. Divergent
4. Convergent

Question Number : 4 Question Id : 3909003844 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The Fourier coefficient  $a_0$  is equal to for the function  $f(x) = \begin{cases} -\pi; & -\pi < x < 0 \\ x; & 0 < x < \pi \end{cases}$

is

Options :

1.  $-\pi$
2.  $\pi$
3.  $\frac{\pi}{2}$
4.  $-\frac{\pi}{2}$

Question Number : 5 Question Id : 3909003845 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Let  $\hat{f} = (x^3 - yz)\hat{i} - 2x^2y\hat{j} + z\hat{k}$  taken over the surface of the cube bounded by the planes  $x = y = z = a$  and the coordinate planes then the value of the integral  $\int_S \hat{f} \cdot \hat{n} ds$  is

Options :

1.  $\frac{a^3}{3} + a^2$

2.  $\frac{a^5}{3} + a^3$

3.  $\frac{a^5}{3}$

4.  $\frac{a^3}{3}$

Question Number : 6 Question Id : 3909003846 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Integrating factor of the differential equation  $\frac{dx}{dy} = \frac{\tan^{-1} y - x}{1 + y^2}$  is ...

Options :

1.  $\tan^{-1} x$

2.  $\tan^{-1} y$

3.  $e^{\tan^{-1} x}$

4.  $e^{\tan^{-1} y}$

Question Number : 7 Question Id : 3909003847 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

The solution of the differential equation is  $\frac{d^2 y}{dx^2} = 0$  with boundary conditions:  $\frac{dy}{dx} = 1$  at  $x = 0$  and  $\frac{dy}{dx} = 1$  at  $x = 1$  is ...

Options :

1.  $y = x + C$ , where  $C$  is an arbitrary constant

2.  $y = C_1 x + C_2$ , where  $C_1, C_2$  are arbitrary constants

3.  $y = 1$

4.  $y = x$

Question Number : 8 Question Id : 3909003848 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If a random variable has a Poisson distribution such that  $P(X = 1) = P(X = 2)$  then the value of  $P(X = 4)$  is ...

Options :

1.  $\frac{2^4}{4!}e^{-2}$

2.  $\frac{1}{4!}e^{-4}$

3.  $\frac{2^4}{4!}e^{-4}$

4.  $\frac{4^2}{2!}e^{-2}$

Question Number : 9 Question Id : 3909003849 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The recurrence relation to solve  $x = e^{-x}$  using Newton-Raphson method is ...

Options :

1.  $x_{n+1} = x_n - \frac{e^{-x_n}}{1 + e^{-x_n}}$

2.  $x_{n+1} = x_n - e^{-x_n}$

3.  $x_{n+1} = (1 + x_n) \frac{e^{-x_n}}{1 + e^{-x_n}}$

4.  $x_{n+1} = e^{-x_n}$

Question Number : 10 Question Id : 3909003850 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following equations are valid regression lines?

Options :

1.  $x - 0.7y = 5.2, 0.3x - y = 2.8$

2.  $2x + 3y = 4, x - y = 5$

3.  $0.2x + 0.3y = 0.4, x - y = 5$

4.  $x + 0.7y = 5.2, 0.3 + y = 2.8$

#### Mining Engineering

Section Id :	39090062
Section Number :	2
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	110
Number of Questions to be attempted:	110
Section Marks:	110
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	39090062
Question Shuffling Allowed :	Yes

Question Number : 11 Question Id : 3909003851 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Bore hole survey means

Options :

1. Measurement of deviation

2. Measurement of depth



3. Measurement of time taken

4. Measurement of velocity

Question Number : 12 Question Id : 3909003852 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Diamond drilling is applicable up to a maximum depth of

Options :

1. 500 m

2. 1000 m

3. 3000 m

4. 5000 m

Question Number : 13 Question Id : 3909003853 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. Defreezing

2. Silicatisation

3. Presilicatisation

4. Thawing

Question Number : 14 Question Id : 3909003854 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In degree-I mines the percentage of inflammable gas is

Options :

1. Less than 0.1

2. 0.1 to 1

3. 1 to 10
4. above 10

Question Number : 15 Question Id : 3909003855 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

The maximum length of the trailing cable is

Options :

1. 50 m
2. 90 m
3. 150 m
4. 200 m

Question Number : 16 Question Id : 3909003856 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

As per Indian standards, Thick Seam means having seam thickness of

Options :

1. 1.5 - 4.5 m
2. 0 - 1.5 m
3. 4.5 - 9 m
4. above 9 m

Question Number : 17 Question Id : 3909003857 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

To avoid freezing of NG explosive which agent is mixed?

Options :

1. PETN
2. TNT



3. DI-NITRO-GLYCOL

4. ASA

Question Number : 18 Question Id : 3909003858 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Geophones are used in

Options :

1. Electrical survey

2. Magnetic survey

3. Gravity survey

4. Seismic survey

Question Number : 19 Question Id : 3909003859 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The VOD of primex is

Options :

1. 5000 m/s

2. 7000 m/s

3. 3500 m/s

4. 3200 m/s

Question Number : 20 Question Id : 3909003860 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

To control the fly rock, the blasting technique adopted is

Options :

1. Cushion blasting

2. Muffled blasting
3. Coyote blasting
4. Pop shooting

Question Number : 21 Question Id : 3909003861 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The minimum thickness of the coal seam for adopting 'Bord and Pillar' method of mining is

Options :

1. 1 m
2. 1.5 m
3. 2 m
4. 2.5 m

Question Number : 22 Question Id : 3909003862 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Minerals are formed due to

Options :

1. Mixing of elements
2. Heating of liquids
3. Sedimentary process
4. Crystallization

Question Number : 23 Question Id : 3909003863 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The metamorphic form of limestone is

Options :

1. Quartzite
2. Slate
3. Marble
4. Talc

Question Number : 24 Question Id : 3909003864 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The process of decay, disintegration and decomposition of rocks under the influence of certain physical and chemical agencies of the atmosphere is called

Options :

1. Weathering
2. Erosion
3. Denudation
4. Sedimentation

Question Number : 25 Question Id : 3909003865 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Exploration means

Options :

1. Mining of minerals
2. Searching of ore
3. Exploitation of ore
4. Excavation of ore

Question Number : 26 Question Id : 3909003866 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Basalt is a .....type of rock.

Options :

1. Hypabyssal rock
2. Sedimentary rock
3. Volcanic rock
4. Plutonic rock

Question Number : 27 Question Id : 3909003867 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The minimum distance between Magazine and nearest hutment is .....

Options :

1. 50 m
2. 75 m
3. 95 m
4. 120 m

Question Number : 28 Question Id : 3909003868 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which rank of coal has highest calorific value?

Options :

1. Peat
2. Anthracite
3. Bituminous
4. Lignite

Question Number : 29 Question Id : 3909003869 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In ANFO explosive, the percentage of diesel oil to be mixed for effective oxygen balanced explosive mixture is?

Options :

1. 4 - 5%
2. 5 - 6%
3. 6 - 7%
4. 7 - 9%

Question Number : 30 Question Id : 3909003870 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The percentage of oxygen in return air is

Options :

1. 20.28 %
2. 78.04 %
3. 20.93 %
4. 25.00 %

Question Number : 31 Question Id : 3909003871 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Hopcalite is used to detect

Options :

1. CO
2. CO<sub>2</sub>
3. CH<sub>4</sub>
4. SO<sub>2</sub>

Question Number : 32 Question Id : 3909003872 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

CO is also called as

Options :

1. Black damp
2. Marsh gas
3. Stink damp
4. White damp

Question Number : 33 Question Id : 3909003873 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Methane can be found at

Options :

1. Roof
2. Floor
3. Any place in the roadway
4. Exhaust gases of the locomotive

Question Number : 34 Question Id : 3909003874 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Static pressure is measured by

Options :

1. Barometer
2. Pitot tube
3. Venturimeter
4. U-tube

Question Number : 35 Question Id : 3909003875 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical



Correct Marks : 1 Wrong Marks : 0

The permissible limit for the Nitrous fumes is

Options :

1. 10 ppm
2. 50 ppm
3. 7 ppm
4. 5 ppm

Question Number : 36 Question Id : 3909003876 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The presence of Nitrous fumes is detected by

Options :

1. the rotten eggs smell
2. sweet smell
3. metallic taste on tongue
4. headache

Question Number : 37 Question Id : 3909003877 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The noxious and inflammable gases of old workings of a coal mine expand when there is

Options :

1. Sudden rise of temperature
2. Sudden heavy roof fall
3. Sudden drop in barometric pressure
4. Sudden rise in barometric pressure

Question Number : 38 Question Id : 3909003878 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

“Flash back arrestor” should be provided for

Options :

1. Compressor
2. Gas welding / cutting set
3. Generator
4. Weigh bridge

Question Number : 39 Question Id : 3909003879 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The Burden is the distance between

Options :

1. Two blast holes in same row
2. First and last row
3. First row of the blast holes and bench face
4. Two blast holes in different rows

Question Number : 40 Question Id : 3909003880 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which factor is to be calculated to measure the performance of the blast?

Options :

1. Tonnage factor
2. Space factor
3. Stripping ratio
4. Powder factor

Question Number : 41 Question Id : 3909003881 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The voltage limit which shall not exceed for general lighting in Opencast Mines is

Options :

1. 125 V

2. 650 V

3. 250 V

4. 11 kV

Question Number : 42 Question Id : 3909003882 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In Opencast Mining, the width which is extracted from the working bench is termed as

Options :

1. Cut

2. Bench width

3. Bank width

4. Bench face

Question Number : 43 Question Id : 3909003883 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Detailed pre-operational checks of vehicles used in the Mines

Options :

1. Improves mine efficiency, reduces down time and cuts maintenance costs

2. Check on equipment maintenance

3. Improves safety of other mines

4. Reduces down time only

Question Number : 44 Question Id : 3909003884 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is not the cause of “Fly rock”?

Options :

1. Insufficient stemming of holes
2. Overcharging of holes
3. Excessive burden
4. Insufficient stemming, overcharging of holes and excessive burden

Question Number : 45 Question Id : 3909003885 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

“Super elevation” is a term used for designing

Options :

1. Benches
2. Haul Roads
3. Dumps
4. Magazine

Question Number : 46 Question Id : 3909003886 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

When the air and mineral flow are in the same direction the ventilation is called as

Options :

1. Ascential ventilation
2. Descential ventilation
3. Homotropical
4. Antitropical



Question Number : 47 Question Id : 3909003887 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Profilometer is used for the measurement of

Options :

1. Air velocity
2. cross section of irregular shapes
3. Pressure of the air
4. Percentage of CH<sub>4</sub>

Question Number : 48 Question Id : 3909003888 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

The type of coal in which spontaneous heating is more likely to occur is

Options :

1. Peat
2. Lignite
3. Bituminous
4. Anthracite

Question Number : 49 Question Id : 3909003889 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Isolation stopings are

Options :

1. Preparatory stopings
2. Temporary stopings
3. Permanent stopings
4. Non-preparatory stopings

Question Number : 50 Question Id : 3909003890 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Full form of DGPS is

Options :

1. Differential Global position set.
2. Digital Geo positioning system.
3. Data Geometrical positioning system
4. Differential Global positioning system.

Question Number : 51 Question Id : 3909003891 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Explosive limit of the  $\text{CH}_4$  is

Options :

1. 4.3 % to 45 %
2. 4.3 % to 75 %
3. 5 % to 15 %
4. 4.3 % to 12 %

Question Number : 52 Question Id : 3909003892 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

In gas mask silica gel is used to

Options :

1. remove dust and smoke
2. remove ammonia and water vapor
3. convert  $\text{CO}$  to  $\text{CO}_2$



4. remove sulphureted hydrogen

Question Number : 53 Question Id : 3909003893 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The bench height is 6m, depth of the hole is 6.6 m (includes sub grade drilling), spacing is 4 m, burden is 5 m, the density of the rock is 2 Ton/m<sup>3</sup> and explosive used is 24 kg. The powder factor is

Options :

1. 12

2. 10

3. 24

4. 11

Question Number : 54 Question Id : 3909003894 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Regarding the ground vibrations, which of the following statements is true?

Options :

1. The lower the frequency – higher the ground displacement.

2. The higher the frequency – higher the ground displacement.

3. The lower the frequency – lower the ground displacement

4. The frequency and ground displacement are not related

Question Number : 55 Question Id : 3909003895 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The duration of usage of gas mask is

Options :

1. 30 minutes - 1 hour

2. 1 - 2 hours

3. 3 - 4 hours

4. 4 - 5 hours

Question Number : 56 Question Id : 3909003896 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Usage of charcoal in gas mask is to

Options :

1. remove dust and smoke

2. remove ammonia and water vapor

3. converts CO to CO<sub>2</sub>

4. remove organic vapors and acidic gases

Question Number : 57 Question Id : 3909003897 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The unit of illumination in S.I units is

Options :

1. Lumen

2. Lux

3. Candela

4. Flux

Question Number : 58 Question Id : 3909003898 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In under ground mines, the purpose of white washing is

Options :

1. To prevent spontaneous heating

2. To prevent coal dust explosion

3. To improve lighting

4. To prevent spontaneous heating and to improve lighting

Question Number : 59 Question Id : 3909003899 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The liquid used in GL-60 lamp is

Options :

1. Petrol

2. Alcohol

3. Diesel

4. K-oil

Question Number : 60 Question Id : 3909003900 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The level of tolerance of noise is

Options :

1. 20 to 50 dB

2. 50 to 70 dB

3. 70 to 85 dB

4. 90 to 110 dB

Question Number : 61 Question Id : 3909003901 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The OB handling = 10,00,000 tonnes , ore production = 4,00,000 tonnes and densities of OB and Ore are  $2.5 \text{ Ton/m}^3$  and  $3 \text{ Ton/m}^3$  respectively. The stripping ratio is

Options :

1. 1: 2.5

2. 2.5 : 1

3. 1: 1

4. 2: 1

Question Number : 62 Question Id : 3909003902 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If the depth of pit reaches \_\_\_\_\_, the scientific study of slope stability is required.

Options :

1. 60 m

2. 75 m

3. 50 m

4. 100 m

Question Number : 63 Question Id : 3909003903 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The limiting gradient of the slusher haulage is

Options :

1.  $20^0$

2.  $30^0$

3.  $45^0$

4.  $60^0$

Question Number : 64 Question Id : 3909003904 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Tri-cone drill bit is a type of

Options :

1. Cross bit

2. Button bit
3. Rotary roller bit
4. Button drag bit

Question Number : 65 Question Id : 3909003905 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. Increasing dimension of panel barrier
2. Stitching side walls
3. Increasing support density at junctions
4. Staggering the junctions

Question Number : 66 Question Id : 3909003906 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

An azimuth of  $320^\circ$  corresponds to a quadrant bearing of

Options :

1.  $W60^\circ N$
2.  $S40^\circ W$
3.  $N40^\circ W$
4.  $N20^\circ W$

Question Number : 67 Question Id : 3909003907 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A system of two identical components connected in series has reliability of 0.25. The reliability of each component is

Options :



1. 0.5
2. 1
3. 0.25
4. 1.5

Question Number : 68 Question Id : 3909003908 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

“Minimum stopping width” is the

Options :

1. Average width of the ore body.
2. Minimum width of the ore body.
3. Minimum distance between two ore bodies.
4. Minimum width required for mining.

Question Number : 69 Question Id : 3909003909 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The ore reserves for which tonnage and grade are computed partly from specific measurements and partly from projection for a reasonable distance on geologic evidence is known as

Options :

1. Proved or measured ore reserves
2. Probable or indicated ore reserves
3. Possible or inferred ore reserves
4. Actual ore reserves

Question Number : 70 Question Id : 3909003910 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0



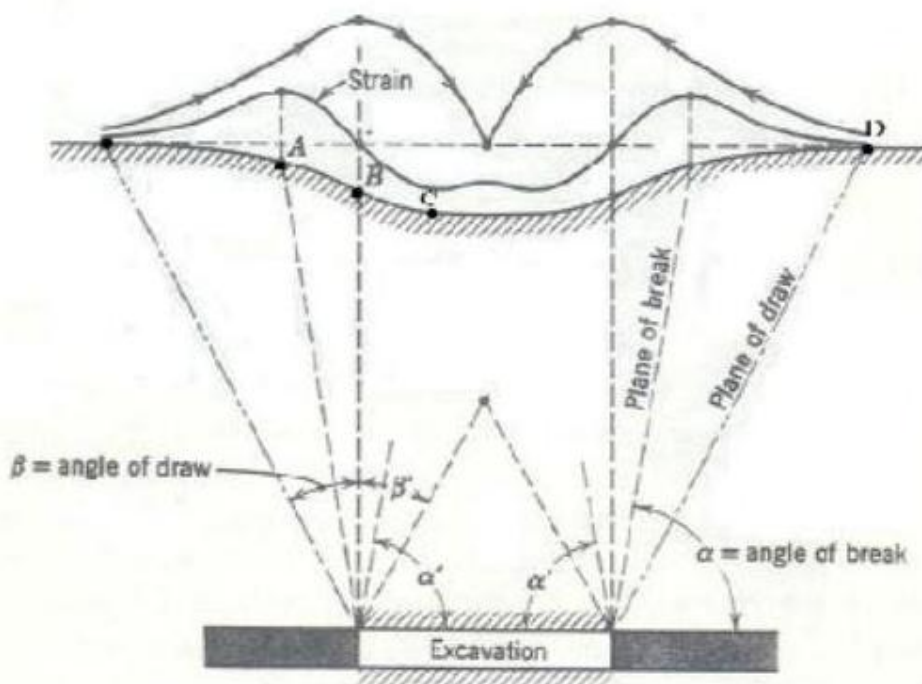
For a 25 mm diameter spherical charge, the maximum allowable charge length in cm is

Options :

1. 15.0
2. 25.0
3. 30.0
4. 150.0

Question Number : 71 Question Id : 3909003911 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

A sub-critical subsidence profile is shown in the figure below. The points A, B, C and D respectively represent the points of



Options :

1. zero vertical displacement, maximum tension, inflexion, maximum compression
2. inflexion, maximum tension, maximum compression, zero vertical displacement
3. maximum tension, inflexion, maximum compression, zero vertical displacement
4. maximum compression, maximum tension, inflexion, zero vertical displacement

Question Number : 72 Question Id : 3909003912 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

For a given mining method techniques, find the correct match.

P	Thick seam extraction	1	Double unit face
Q	Bord and pillar extraction	2	Jet cutting
R	Longwall face development	3	Inclined slicing
S	Hydraulic mining	4	Half moon method

The correct match is

Options :

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

Question Number : 73 Question Id : 3909003913 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Drift mining is generally employed

Options :

1. For the underground mining.
2. For coal mining.
3. In the exploitation of placers.
4. In the exploitation of copper ore.

Question Number : 74 Question Id : 3909003914 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following are the causes of "Slope failure"?

- |                                  |   |
|----------------------------------|---|
| 1. Geological structure, texture | 2. Anomalies like dykes, faults, folds etc. |
| 3. Dynamic Loading               | 4. Fissures and joint                       |

**Options :**

1. 1, 2, 3 & 4 are correct
2. 1 & 2 are correct
3. 3 & 4 are correct
4. 1 & 4 are correct

**Question Number : 75 Question Id : 3909003915 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes**  
**Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 1 Wrong Marks : 0**

**Which of the Fire Extinguisher can be used for Electrical fires?**

**Options :**

1. Automatic
2. water type
3. Foam type
4. CO<sub>2</sub> type

**Question Number : 76 Question Id : 3909003916 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes**  
**Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 1 Wrong Marks : 0**

**The property (properties) which enables a material / metal to be drawn into wires is called**

**Options :**

1. Ductility
2. Toughness
3. Brittleness
4. Ductility, Toughness & Brittleness

**Question Number : 77 Question Id : 3909003917 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes**  
**Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 1 Wrong Marks : 0**

The range of the poison's ratio for Marble is

Options :

1. 0 to 0.15
2. 0.15 to 0.25
3. 0.25 to 0.34
4. 0.34 to 0.5

Question Number : 78 Question Id : 3909003918 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

The objective of normalization is

Options :

1. To remove internal strains only
2. To reduce the size of crystal grains only
3. To improve the strength only
4. To remove internal strains & to improve strength

Question Number : 79 Question Id : 3909003919 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

The elements in the WHITE METAL are

Options :

1. Tin ; Antimony ; Lead ;Copper
2. Copper ; Tin ; Chromium
3. Copper ; Zinc; Tin
4. Tungsten ; Chromium

Question Number : 80 Question Id : 3909003920 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0



In a borehole log of 1.2 m in length, recovery of rock cores in cm are given below: 20, 8, 15, 8, 8, 4, 3, 9, 10, 1, 5, 10. The RQD in percentage is

Options :

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

Question Number : 81 Question Id : 3909003921 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The example of non-stranded rope is

Options :

1. Performed rope
2. Equal lay ropes
3. Regular lay
4. Locked coil ropes

Question Number : 82 Question Id : 3909003922 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The ratio between breaking load and total suspended rope is called

Options :

1. Fill factor
2. Factor of safety
3. Capacity factor
4. Bending factor

Question Number : 83 Question Id : 3909003923 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The minimum space between two cages is generally

Options :

1. 20 cm
2. 30 cm
3. 40 cm
4. 50 cm

Question Number : 84 Question Id : 3909003924 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Mechanical brakes are applied upto a maximum depth of

Options :

1. 100 m
2. 200 m
3. 300 m
4. 400 m

Question Number : 85 Question Id : 3909003925 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Match the following in the context of underground mine environment.

Instrument Measuring parameter

P. Haldane apparatus

Q. Godbert-Greenwald apparatus

R. Hygrometer

S. Anemometer

I. Humidity

II. Air velocity

III. Mine air composition

IV. Ignition point temperature

Options :

1. P-II, Q-I, R-III, S-IV
2. P-III, Q-IV, R-I, S-II



3. P-IV, Q-II, R-III, S-I

4. P-I, Q-III, R-IV, S-II

Question Number : 86 Question Id : 3909003926 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The R.F of ventilation plan is

Options :

1. 2000:1

2. 1200:1

3. 2400:1

4. 1500:1

Question Number : 87 Question Id : 3909003927 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Incubation period is NOT related to

Options :

1. crossing point temperature of coal

2. panel size

3. seam thickness

4. explosibility of coal dust

Question Number : 88 Question Id : 3909003928 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Coal seams are normally found in

Options :

1. Sedimentary rocks

2. Metamorphic rocks

3. Igneous rocks

4. Volcanic rocks

Question Number : 89 Question Id : 3909003929 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Black damp is a mixture of

Options :

1.  $\text{CO}_2 + \text{N}_2 + \text{CO}$

2.  $\text{CO}_2 + \text{N}_2$

3.  $\text{CO}_2 + \text{N}_2 + \text{CH}_4$

4.  $\text{CO} + \text{N}_2$

Question Number : 90 Question Id : 3909003930 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The wet bulb temperature in development faces should not exceed

Options :

1.  $35^\circ \text{C}$

2.  $33^\circ \text{C}$

3.  $37^\circ \text{C}$

4.  $29^\circ \text{C}$

Question Number : 91 Question Id : 3909003931 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In ventilation network analysis, Kirchhoff's first law is used, which states

Options :

1. The algebraic sum of quantities flowing at a junction is zero

2. The algebraic sum of quantities flowing at a junction is 1

3. The algebraic sum of quantities flowing at a junction is -1
4. The algebraic sum of quantities flowing at a junction is 4

Question Number : 92 Question Id : 3909003932 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A 10% increase in cross sectional area of a roadway will reduce the resistance approximately by

Options :

1. 20%
2. 30%
3. 10%
4. 40%

Question Number : 93 Question Id : 3909003933 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : 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. Coyote blasting
3. Plaster shooting
4. Pop shooting

Question Number : 94 Question Id : 3909003934 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Contours in a topographic map

Options :

1. Are not closed upon themselves although the earth is a continuous surface

2. Are not perpendicular to the direction of maximum slope
3. Provide an indication of presence of valley or ridge in the area
4. Are the lines joining the points of same declination at different elevations

Question Number : 95 Question Id : 3909003935 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The roof bolt that follows the principle of point anchorage is

Options :

1. Expansion shell bolt
2. Full column grouted bolt
3. Split set bolt
4. Swellex bolt

Question Number : 96 Question Id : 3909003936 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is more appropriate form of organization for Mining industry?

Options :

1. Line organization only
2. Function organization only
3. Line and Staff organization
4. Line and Function organization

Question Number : 97 Question Id : 3909003937 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is used as a base charge in Detonator?

Options :



1. Gun powder
2. Potassium nitrate
3. NaCl
4. TNT

Question Number : 98 Question Id : 3909003938 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Emulsion explosive is a mixture of

Options :

1. Ammonium nitrate, TNT, NG
2. Ammonium nitrate, TNT, guar gum
3. Ammonium nitrate, NG, water
4. Ammonium nitrate, water, hollow micro-balloons

Question Number : 99 Question Id : 3909003939 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Match the following blasting elements with the corresponding initiators.

P- Electric detonator	1- Match stick
Q- Safety fuse	2- Booster
R- Detonating fuse	3- Exploder
S- Non cap-sensitive explosive	4- Ordinary detonator

Options :

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



Question Number : 100 Question Id : 3909003940 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following instruments is used to measure the cooling power of the air

Options :

1. Kata thermometer
2. Anemometer
3. Vane anemometer
4. Barometer

Question Number : 101 Question Id : 3909003941 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The percentage of methane in the return air in any heading ventilated by an auxiliary fan shall not exceed

Options :

1. 0.3 %
2. 0.5 %
3. 0.8 %
4. 1.0 %

Question Number : 102 Question Id : 3909003942 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The quantity of air passing through roadway of dimensions  $10\text{m} \times 5\text{m}$  at a velocity of  $20\text{ m/s}$  is

Options :

1.  $1000\text{ m}^3/\text{s}$
2.  $100\text{ m}^3/\text{s}$
3.  $10000\text{ cm}^3/\text{s}$

4.  $2.5 \text{ m}^3/\text{s}$

Question Number : 103 Question Id : 3909003943 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

S- wave can travel through

Options :

1. Only in solid
2. Only in liquid
3. Only in air
4. Both solid and liquid

Question Number : 104 Question Id : 3909003944 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The number of cycles a wave completes in one second is called

Options :

1. Time period
2. Frequency
3. Energy
4. Wavelength

Question Number : 105 Question Id : 3909003945 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The instrument used to measure angle of dip is

Options :

1. Luxometer
2. Tachometer

3. Seismograph

4. Clinometer

Question Number : 106 Question Id : 3909003946 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In the Moh's scale of hardness, the minerals in decreasing sequence of hardness are

Options :

1. Diamond, topaz, gypsum, calcite

2. Diamond, calcite, gypsum, topaz

3. Topaz, diamond, gypsum, calcite

4. Diamond, topaz, calcite, gypsum

Question Number : 107 Question Id : 3909003947 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The property that CANNOT be determined from uniaxial compressive strength test of a rock sample fitted with strain gauges is

Options :

1. Cohesion

2. Poisson's ratio

3. Modulus of elasticity

4. Dilation

Question Number : 108 Question Id : 3909003948 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The starting point of a vertical shaft at the grounding surface is called

Options :

1. Collar

2. Heading

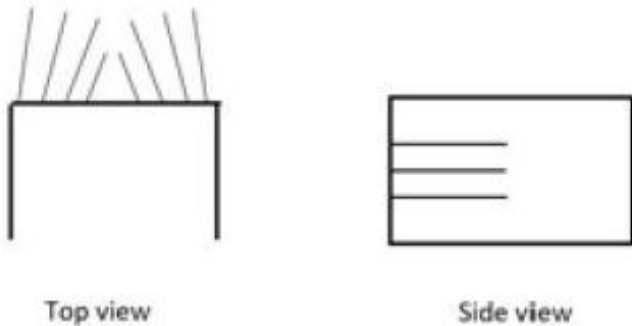
3. Inset

4. Scaffold

Question Number : 109 Question Id : 3909003949 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The following figure represents top view and side view of which cut pattern



Options :

1. Drag cut

2. Wedge cut

3. Pyramid cut

4. Fan cut

Question Number : 110 Question Id : 3909003950 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In rock blasting the term “impedance of medium” is the product of

Options :

1. Wave pressure and Poisson's ratio

2. Wave pressure and density of the medium

3. Propagation velocity and Poisson's ratio

4. Propagation velocity and density of the medium

Question Number : 111 Question Id : 3909003951 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

As per the explosives rule, not more than \_\_\_\_\_ number of detonators are transported at a time.

Options :

1. 100
2. 200
3. 300
4. 400

Question Number : 112 Question Id : 3909003952 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Explosives should never be stored along with

Options :

1. Cast boosters
2. Detonating cord
3. Non-electric blasting caps
4. All the three options are correct

Question Number : 113 Question Id : 3909003953 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

According to mine regulations, the value of the fleet angle  $\alpha$  (in degrees) of a drum winder installation lies in the range of

Options :

1.  $1.5 < \alpha \leq 2.5$
2.  $0 < \alpha \leq 1.5$
3.  $2.0 < \alpha \leq 2.5$



4.  $2.5 < \alpha \leq 3.5$

Question Number : 114 Question Id : 3909003954 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Identify the initiation sequence which is NOT possible for surface blasting.

Options :

1. Detonating fuse-Nonel-Electronic detonator
2. Electric detonator-Nonel-Detonating fuse
3. Electric detonator-Detonating fuse-Nonel
4. Electronic detonator-Detonating fuse-Nonel

Question Number : 115 Question Id : 3909003955 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

The 'temperature inversion' of the atmosphere in surface mines does not aggravates the problem of

Options :

1. Airborne dust
2. Noise
3. Ground vibrations
4. Visibility

Question Number : 116 Question Id : 3909003956 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

In a CO self rescuer, the purpose of the calcium bromide and lithium chloride mixture is to

Options :

1. Dry the incoming air
2. Convert the CO catalytically to CO<sub>2</sub>

3. Absorb and thereby neutralize CO

4. Cool the inhaled air from excess exothermic heat due to chemical reaction

Question Number : 117 Question Id : 3909003957 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Out of the support categories given for an underground coal mine, identify the 'active support'.

Options :

1. Wire mesh

2. Shotcrete

3. Fully grouted roof bolt

4. Hydraulic prop

Question Number : 118 Question Id : 3909003958 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The maximum length of the rope haulage is

Options :

1. 1000 m

2. 800 m

3. 600 m

4. 450 m

Question Number : 119 Question Id : 3909003959 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Coning and quartering is a

Options :

1. mining method employed in unconsolidated ground.

2. mining method employed for the diamond mining.
3. method employed for obtaining a laboratory sample from the field sample.
4. cutting and filling method employed in underground mining.

Question Number : 120 Question Id : 3909003960 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The SI unit of specific gravity is

Options :

1. Ohm
2. g/cc
3. N/cc
4. dimensionless