Telangana State Council Higher Education

Notations :

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

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

Question Paper Name:	Mining Engineering 11th May 2019 Shift1
Subject Name:	Mining Engineering
Creation Date:	2019-05-11 13:35:20
Duration:	180
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Share Answer Key With Delivery Engine:	Yes
Actual Answer Key:	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?:	No

Mining Engineering

Group Number :	1
Group Id :	89465824
Group Maximum Duration :	0
Group Minimum Duration :	180
Revisit allowed for view? :	No
Revisit allowed for edit? :	No
Break time:	0
Group Marks:	200

Mathematics

Section Id :	89465891
Section Number :	1
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	50
Number of Questions to be attempted:	50
Section Marks:	50
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	894658101
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 8946584609 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 $M=(a_{ij})$ be a 10×10 matrix such that $a_{ij}=\begin{cases}1, & \text{if } i+j=11\\ 0, & \text{otherwise}\end{cases}$. Then, the determinant of M is _____.

Options :

1. ✖ 0

2. ✖ 1

3. ✔ -1

4. ✖ 11

Question Number : 2 Question Id : 8946584610 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 A and B be two square matrices of order n. If $AB=A$, $BA=B$ then $A^2+B^2=$ ___.

Options :

1. ✖ AB

2. ✖ $A-B$

3. ✖ 0

4. ✔ $A+B$

Question Number : 3 Question Id : 8946584611 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Consider the system of linear equations $x+y+z=3, x-y-z=4, x-5y+\alpha z=6$. Then, the value of α for which this system has an infinite number of solutions is _____.

Options :

1. ✔ -5

2. ✖ 5

3. ✖ 3

4. ✖ 1

Question Number : 4 Question Id : 8946584612 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 $A(\alpha,\beta)=\begin{pmatrix}\cos\alpha & \sin\alpha & 0\\ -\sin\alpha & \cos\alpha & 0\\ 0 & 0 & e^{\beta}\end{pmatrix}$, then the inverse of the matrix $A(\alpha,\beta)$ is _____.

Options :

1. ✖ $A(\alpha,\beta)$

2. ✖ $A(\alpha,-\beta)$

3. ✔ $A(-\alpha,-\beta)$

4. ✖ $A(-\alpha,\beta)$

Question Number : 5 Question Id : 8946584613 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 rational fraction $\frac{x^2+1}{(x^2+4)(x-2)}$ is equal to _____

Options :

1. ✖ $\frac{3x+6}{8(x^2+4)}+\frac{5}{4(x-2)}$

2. ✖ $\frac{3x+6}{4(x^2+4)}+\frac{5}{8(x-2)}$

3. ✔ $\frac{3x+6}{8(x^2+4)}+\frac{5}{8(x-2)}$

4. ✖ $\frac{3x+6}{(x^2+4)}+\frac{5}{(x-2)}$

Question Number : 6 Question Id : 8946584614 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 $\log_2 3 = a, \log_3 5 = b, \log_7 2 = c$, then $\log_{140} 63 =$ _____.

Options :

1. ✖ $\frac{1-2ac}{2c+abc+1}$

2. ✖ $\frac{1-2ac}{2c-abc-1}$

3. ✖ $\frac{1+2ac}{2c-abc-1}$

4. ✔ $\frac{1+2ac}{2c+abc+1}$

Question Number : 7 Question Id : 8946584615 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

$\cos\frac{2\pi}{7}+\cos\frac{4\pi}{7}+\cos\frac{6\pi}{7} =$ ____.

Options :

1. ✖ 1

2. ✖ $\frac{1}{2}$

3. ✔ $\frac{-1}{2}$

4. ✖ 0

Question Number : 8 Question Id : 8946584616 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 angles A, B and C of a triangle are in an arithmetic progression and if a, b and c denote the lengths of the sides opposite to A, B and C respectively, then the value of the expression $\frac{a}{c}\sin 2C + \frac{c}{a}\sin 2A$ is ___.

Options :

1. ✔ $\sqrt{3}$

2. ✖ $\frac{\sqrt{3}}{2}$

3. ✖ 1

4. ✖ $\frac{1}{2}$

Question Number : 9 Question Id : 8946584617 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 $\sin x + \sin y = \frac{1}{4}$ and $\cos x + \cos y = \frac{1}{3}$, then $\cot(x+y) =$ _____.

Options :

1. ✔ $\frac{7}{24}$

2. ✖ $\frac{24}{7}$

3. ✖ $\frac{3}{4}$

4. ✖ 1

Question Number : 10 Question Id : 8946584618 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 $\sin(x^\circ + 28^\circ) = \cos(3x^\circ - 78^\circ)$ and $0^\circ < x^\circ < 90^\circ$, then, which of the following is the value of x°?

Options :

1. ✖ 50°

2. ✖ 30°

3. ✖ 16°

4. ✔ 8°

Question Number : 11 Question Id : 8946584619 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 $x = \tan\left(\text{Cosec}^{-1}\frac{65}{63}\right)$ and $y = \sec^2\left(Cot^{-1}\frac{1}{2}\right) + \cos ec^2\left(Tan^{-1}\frac{1}{3}\right)$, then $(x, y) =$ _____.

Options :

1. ✔ $\left(\frac{63}{16}, 15\right)$

2. ✖ $\left(\frac{16}{63}, 15\right)$

3. ✖ $\left(\frac{63}{16}, 5\right)$

4. ✖ $\left(\frac{16}{63}, 5\right)$

Question Number : 12 Question Id : 8946584620 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 equation $\text{Tan}^{-1}\left(\frac{x+1}{x-1}\right)+T\,\text{an}^{-1}\left(\frac{x-1}{x}\right)=T\,\text{an}^{-1}(-7)$ has _____.

Options :

1. ✔ unique solution $x=2$

2. ✖ two solutions $x=1,2$

3. ✖ no solution

4. ✖ infinite number of solutions

Question Number : 13 Question Id : 8946584621 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 triangle ABC, let a,b and c denote the lengths of the sides opposite to A, B and C respectively. If $\frac{1}{a+c}+\frac{1}{b+c}=\frac{3}{a+b+c}$, then the angle C is ____.

Options :

1. ✖ 30°

2. ✖ 90°

3. ✔ 60°

4. ✖ 45°

Question Number : 14 Question Id : 8946584622 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 $\sin hx=3$ then $x=$ _____.

Options :

1. ✔ $\log(3+\sqrt{10})$

2. ✖ $\log(3-\sqrt{10})$

3. ✖ $\log(6+\sqrt{10})$

4. ✖ 1

Question Number : 15 Question Id : 8946584623 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 true for the complex numbers z_1 and z_2 ?

Options :

1. ✖ $\frac{z_1}{z_2}=\frac{z_1\bar{z}_2}{|z_2|^2}$

2. ✖ $|z_1+z_2|\le|z_1|+|z_2|$

3. ✔ $|z_1+z_2|\le||z_1|-|z_2||$

4. ✖ $|z_1+z_2|^2+|z_1-z_2|^2=2|z_1|^2+2|z_2|^2$

Question Number : 16 Question Id : 8946584624 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 complex number $z=\frac{\sqrt{3}}{2}+i\frac{1}{2}$, then z^4 is _____.

Options :

1. ✖ $2\sqrt{2}+2i$

2. ✔ $\frac{-1}{2}+i\frac{\sqrt{3}}{2}$

3. ✖ $\frac{\sqrt{3}}{2}-i\frac{1}{2}$

4. ✖ $\frac{\sqrt{3}}{8}-i\frac{1}{8}$

Question Number : 17 Question Id : 8946584625 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 equation of the straight line which makes intercepts r and s on the coordinate axes such that $r+s=5$ and $rs=6$ is $ax+by+c=0$, then $a+b+c=$ ____ .

Options :

1. ✖ 11

2. ✖ 5

3. ✖ -7

4. ✔ -1

Question Number : 18 Question Id : 8946584626 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 straight line $ax+by+\sqrt{5}=0$ touches the circle $x^2+y^2=5$, then which of the following is TRUE?

Options :

1. ✖ $5(a^2+b^2)=1$

2. ✖ $a^2+b^2=\sqrt{5}$

3. ✔ $a^2+b^2=1$

4. ✖ $\sqrt{a^2+b^2}=5$

Question Number : 19 Question Id : 8946584627 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 chord of length 12 cm is at a distance of $4\sqrt{10}$ cm from the centre of the circle, then the radius of the circle is _____.

Options :

1. ✔ 14 cm

2. ✖ $\sqrt{304}$ cm

3. ✖ 4 cm

4. ✖ $\sqrt{124}$ cm

Question Number : 20 Question Id : 8946584628 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 2019^{th} derivative of the function $(x-1)e^{-x}$ is _____

Options :

1. ✖ $\frac{x-2019}{e^x}$

2. ✖ $\frac{2019-x}{e^x}$

3. ✖ $\frac{x-2020}{e^x}$

4. ✔ $\frac{2020-x}{e^x}$

Question Number : 21 Question Id : 8946584629 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 $z = f(x+ct) + \varphi(x-ct)$, then $\frac{\partial^2 z}{\partial t^2} =$ _____.

Options :

1. ✔ $c^2 \frac{\partial^2 z}{\partial x^2}$

2. ✖ $-c^2\frac{\partial^2 z}{\partial x^2}$

3. ✖ $\frac{1}{c^2}\frac{\partial^2 z}{\partial x^2}$

4. ✖ $-\frac{1}{c^2}\frac{\partial^2 z}{\partial x^2}$

Question Number : 22 Question Id : 8946584630 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 $x = r\cos\theta,\ y = r\sin\theta$ and $U = \frac{f(\theta)}{r}$ then $x\frac{\partial U}{\partial x} + y\frac{\partial U}{\partial y} =$ _____.

Options :

1. ✖ 0

2. ✖ U

3. ✔ $-U$

4. ✖ $2U$

Question Number : 23 Question Id : 8946584631 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 $f(x+y) = f(x)f(y),\ \forall x, y$ and $f'(0) = 5,\ f(2019) = 15$. Then the value of $f'(2019)$ is _____.

Options :

1. ✖ 3

2. ✔ 75

3. ✖ $\frac{1}{3}$

4. ✖ $\frac{1}{75}$

Question Number : 24 Question Id : 8946584632 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 set of values of x for which the function $f(x)=2x^3-9x^2+12x+4$ is increasing is _____.

Options :

1. ✖ $1<x<2$

2. ✖ all $x\in\mathbb{R}$

3. ✔ $\mathbb{R}-[1, 2]$

4. ✖ $x\geq 2$

Question Number : 25 Question Id : 8946584633 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

$\lim\limits_{x\to\infty} x\left(\log\left(1+\frac{x}{2}\right)-\log\left(\frac{x}{2}\right)\right)=$ _____.

Options :

1. ✖ e^2

2. ✖ ∞

3. ✖ 1

4. ✔ 2

Question Number : 26 Question Id : 8946584634 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 $f(x,y,z)=x^3+xz^2+y^3+xyz,\ x=e^t,\ y=\cos t,\ z=t^3$ then $\frac{df}{dt}$ at $t=0$ is _____.

Options :

1. ✖ 2

2. ✖ 4

3. ✖ e

4. ✔ 3

Question Number : 27 Question Id : 8946584635 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 the value of $5050\times\frac{\int_0^1(1-(1-x)^{50})^{100}x^{49}dx}{\int_0^1(1-x^{50})^{101}x^{49}dx}$?

Options :

1. ✔ 5100

2. ✖ 1

3. ✖ 5050

4. ✖ $\frac{1}{2}$

Question Number : 28 Question Id : 8946584636 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

$\int_0^1 \max\left\{x, \frac{1}{2}-x\right\}dx =$ _____.

Options :

1. ✖ 0

2. ✖ $\frac{1}{2}$

3. ✔ $\frac{9}{16}$

4. ✖ $\frac{9}{8}$

Question Number : 29 Question Id : 8946584637 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

$\lim_{n\to\infty} \frac{1}{n^6} \sum_{k=1}^{n} k^5 =$ _____.

Options :

1. ✔ $\frac{1}{6}$

2. ✖ $\frac{1}{5}$

3. ✖ 1

4. ✖ 6

Question Number : 30 Question Id : 8946584638 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

$\int_{-1}^{1} \frac{x^{15}(1-x^2)^{12}}{(1+x^2)^8} dx =$ _____.

Options :

1. ✖ 0

2. ✔ $\frac{22}{7} - \pi$

3. ✖ $\frac{2}{105}$

4. ✖ $\frac{71}{15} - \frac{3\pi}{4}$

Question Number : 31 Question Id : 8946584639 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 area of the region bounded by the curves $y = 2 - x^2$ and $y = -x$ is _____.

Options :

1. ✖ 1

2. ✖ $\frac{8}{19}$

3. ✖ $\frac{35}{4}$

4. ✔ $\frac{27}{6}$

Question Number : 32 Question Id : 8946584640 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 volume of the solid obtained by revolving the region bounded by the curves $y = x^3$, $y = 8$ and $x = 0$ about the y-axis is _____

Options :

1. ✖ $\frac{96}{5}$

2. ✔ $\frac{96\pi}{5}$

3. ✖ $\frac{32\pi}{5}$

4. ✖ $\frac{32}{5}$

Question Number : 33 Question Id : 8946584641 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 value of $\int_0^{\pi} \theta \sin^2\theta \cos^4\theta \, d\theta$ is _____.

Options :

1. ✔ $\frac{\pi^2}{32}$

2. ✖ $\frac{\pi}{32}$

3. ✖ $\frac{\pi^2}{16}$

4. ✖ $\frac{\pi}{16}$

Question Number : 34 Question Id : 8946584642 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 average value of the function $f(x) = 4 - x^2$ over the interval $[-1, 3]$ is _____.

Options :

1. ✖ 5

2. ✖ $\frac{20}{3}$

3. ✔ $\frac{5}{3}$

4. ✖ 1

Question Number : 35 Question Id : 8946584643 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 differential equation $x\frac{dy}{dx} = y + x^2,\ x > 0$ satisfying $y(0) = 0$ has _____.

Options :

1. ✔ infinitely many solutions

2. ✖ no solution

3. ✖ a unique solution

4. ✖ exactly two solutions

Question Number : 36 Question Id : 8946584644 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 differential equation $(a\,xy^3 + y\cos x)dx + (x^2y^2 + b\sin x)dy = 0$ is an exact differential equation for _____.

Options :

1. ✖ $a = 1,\ b = \frac{3}{2}$

2. ✖ $a = \frac{3}{2},\ b = 1$

3. ✔ $a = \frac{2}{3},\ b = 1$

4. ✖ $a = 1,\ b = \frac{2}{3}$

Question Number : 37 Question Id : 8946584645 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 $\sin x$ is a solution of the differential equation $\frac{d^4y}{dx^4} + 2\frac{d^3y}{dx^3} + 6\frac{d^2y}{dx^2} + 2\frac{dy}{dx} + 5y = 0$, then the general solution is _____.

Options :

1. ✔ $y = c_1\sin x + c_2\cos x + e^{-x}(c_3\sin 2x + c_4\cos 2x)$

2. ✖ $y = c_1\sin x + c_2\cos x + c_3\sin 2x + c_4\cos 2x$

3. ✖ $y = c_1\sin x + c_2\cos x + c_3e^{-3x} + c_4e^{-2x}$

4. ✖ $y = c_1\sin x + c_2\cos x + c_3e^{3x} + c_4e^{2x}$

Question Number : 38 Question Id : 8946584646 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 $D \equiv \frac{d}{dx}$, then $\frac{1}{D^2 - 4D + 13}(6e^{2x} \sin 3x)$ is _____.

Options :

1. ✔ $-xe^{2x} \cos 3x$

2. ✖ $xe^{2x} \cos 3x$

3. ✖ $-xe^{2x} \sin 3x$

4. ✖ $xe^{2x} \sin 3x$

Question Number : 39 Question Id : 8946584647 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 general solution of $\left(\frac{e^{-2\sqrt{x}}}{\sqrt{x}} - \frac{y}{\sqrt{x}}\right)\frac{dx}{dy} = 1$ is _____.

Options :

1. ✖ $y = e^{2\sqrt{x}}\ (2\sqrt{x} + c)$

2. ✖ $y = 2\sqrt{x}\ e^{2\sqrt{x}} + c$

3. ✖ $y = 2\sqrt{x}\ e^{-2\sqrt{x}} + c$

4. ✔ $y = e^{-2\sqrt{x}}\ (2\sqrt{x} + c)$

Question Number : 40 Question Id : 8946584648 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 y be the solution of the differential equation $\frac{dy}{dx} + y = x,\ x \in \mathbb{R}$ and $y(-1) = 0$.

Then, y(1) is equal to _____.

Options :

1. ✖ $\frac{2}{e}-\frac{2}{e^2}$

2. ✔ $2e^{-2}$

3. ✖ $2-\frac{2}{e}$

4. ✖ $2-2e$

Question Number : 41 Question Id : 8946584649 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 substitution $x=X+h,\ y=Y+k$ transforms the differential equation $(y-x+1)dy-(y+x+2)dx=0$ into a homogeneous equation, then the value of (h,k) is _____.

Options :

1. ✖ $\left(\frac{1}{2},\frac{3}{2}\right)$

2. ✔ $\left(\frac{-1}{2},\frac{-3}{2}\right)$

3. ✖ $\left(\frac{3}{2},\frac{1}{2}\right)$

4. ✖ $\left(\frac{-3}{2},\frac{-1}{2}\right)$

Question Number : 42 Question Id : 8946584650 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 general solution of $\frac{dy}{dx}-y=y^2(\sin x+\cos x)$ is _____.

Options :

1. ✖ $y=\frac{1}{ce^{x}-\sin x}$

2. ✖ $y=ce^{-x}-e^{x}\sin x$

3. ✖ $y=ce^{-x}-\sin x$

4. ✔ $y=\frac{1}{ce^{-x}-\sin x}$

Question Number : 43 Question Id : 8946584651 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 Laplace transform of the function $f(t)=\begin{cases}\sin t, & \text{for } 0\le t\le \pi\\ 0, & \text{for } t>\pi\end{cases}$

is _____.

Options :

1. ✖ $\frac{1}{(1+s^{2})}$ for all $s>0$

2. ✖ $\frac{1}{(1+s^{2})}$ for all $s<\pi$

3. ✔ $\frac{(1+e^{-\pi s})}{(1+s^{2})}$ for all $s>0$

4. ✖ $\frac{e^{-\pi s}}{(1+s^{2})}$ for all $s>0$

Question Number : 44 Question Id : 8946584652 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 inverse Laplace transform of $\frac{5}{s}-\frac{3e^{-3s}}{s}-\frac{2e^{-7s}}{s}$ is _____.

Options :

1. ✖ $$f(x)=\begin{cases}5, & 0<x<3\\ 0, & 3<x<7\\ 2, & x>7\end{cases}$$

2. ✖ $$f(x)=\begin{cases}5, & 0<x<7\\ 2, & x>7\end{cases}$$

3. ✔ $$f(x)=\begin{cases}5, & 0<x<3\\ 2, & 3<x<7\\ 0, & x>7\end{cases}$$

4. ✖ $$f(x)=\begin{cases}5, & 0<x<7\\ 0, & x>7\end{cases}$$

Question Number : 45 Question Id : 8946584653 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 Laplace transform of a function $f(x)$ is $F(s)=\dfrac{1}{s^3+2s^2+2s}$ Then, $\lim\limits_{x\to 0} f(x)=$

_____.

Options :

1. ✔ 0

2. ✖ 3

3. ✖ ∞

4. ✖ $\dfrac{1}{2}$

Question Number : 46 Question Id : 8946584654 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 Laplace transform of the solution of the differential equation $\frac{dy}{dx} - 2y = e^{5x}$ with the initial condition $y(0) = 3$ is _____.

Options :

1. ✖ $\frac{1}{3(s-2)} + \frac{1}{3(s-5)}$

2. ✖ $\frac{8}{3(s-2)} + \frac{1}{s-5}$

3. ✔ $\frac{8}{3(s-2)} + \frac{1}{3(s-5)}$

4. ✖ $\frac{8}{s-2} + \frac{1}{3(s-5)}$

Question Number : 47 Question Id : 8946584655 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 $L(y(x)) = Y(s)$ and $y(x) = x^3 + \int_0^x \sin(x-t)\, y(t)dt$ then $\frac{1}{6}Y(s) =$ _____.

Options :

1. ✔ $\left(\frac{1}{s^4} + \frac{1}{s^6}\right)$

2. ✖ $\left(\frac{1}{s^3} + \frac{1}{s^5}\right)$

3. ✖ $\left(\frac{1}{s^3} + \frac{1}{s^7}\right)$

4. ✖ $\left(\frac{1}{s} + \frac{1}{s^3}\right)$

Question Number : 48 Question Id : 8946584656 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 $x > 0$, $\int_0^\infty \frac{\sin xt}{t} dt$ is _____.

Options :

1. ✖ 0

2. ✖ $\frac{\pi}{2x}$

3. ✖ $\frac{1}{x}$

4. ✔ $\frac{\pi}{2}$

Question Number : 49 Question Id : 8946584657 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 $f(x) = \frac{1}{2}a_0 + \sum_{n=1}^{\infty}(a_n \cos nx + b_n \sin nx)$ is the Fourier series of the function

$f(x) = \begin{cases} 0, & -\pi \le x < 0 \\ \pi, & 0 \le x \le \pi \end{cases}$ then, which of the following is TURE?

Options :

1. ✖ $a_n = 0$, for all $n \ge 0$

2. ✖ $a_0 = \frac{\pi}{2}$ and $a_n = 0$, for all $n \ge 1$

3. ✖ $b_n \ne 0$, for all $n \ge 1$

4. ✔ $a_0 = \pi$ and $a_n = 0$, for all $n \ge 1$

Question Number : 50 Question Id : 8946584658 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 function $f(x)$ is such that $f(x+2\pi) = f(x)$ and $f(x) = x$, $-\pi \le x \le \pi$. The Fourier series of $f(x)$ is _____.

Options :

1. ✔ $2(\sin x - \frac{1}{2}\sin 2x + \frac{1}{3}\sin 3x - .....)$

2. ✖ $2(\sin x + \frac{1}{2}\sin 2x + \frac{1}{3}\sin 3x + ...)$

3. ✖ $2(\cos x - \frac{1}{2}\cos 2x + \frac{1}{3}\cos 3x - .....)$

4. ✖ $2(\cos x + \frac{1}{2}\cos 2x + \frac{1}{3}\cos 3x + ...)$

Physics

Section Id :	89465892
Section Number :	2
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	25
Number of Questions to be attempted:	25
Section Marks:	25
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	894658102
Question Shuffling Allowed :	Yes

Question Number : 51 Question Id : 8946584659 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 dimensional formula for gravitational constant is_____.

Options :

1. ✔ $L^3T^{-2}M^{-1}$

2. ✖ $L^3T^2M^{-1}$

3. ✖ $L^2T^3M^{-2}$

4. ✖ $L^3T^1M^{-3}$

Question Number : 52 Question Id : 8946584660 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 dimensions of the quantities in one of the following pairs are same. Identify the pairs.

Options :

1. ✔ torque and work

2. ✖ angular momentum and work

3. ✖ energy and Young's modules

4. ✔ light year and wavelength

Note: For this question, ambiguity is found in question/answer. Candidate will get full marks for this question if any of the correct options are chosen.

Question Number : 53 Question Id : 8946584661 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 correct?

Options :

1. ✖ $j \times i = -k$

2. ✖ $k \times j = -i$

3. ✖ $i \times k = -j$

4. ✔ $k \times i = -j$

Question Number : 54 Question Id : 8946584662 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 $0.5\,i + 0.8\,j + c\,k$ is a unit vector then c is_____.

Options :

1. ✖ $\sqrt{0.89}$

2. ✖ 0.2

3. ✖ 0.3

4. ✔ $\sqrt{0.11}$

Question Number : 55 Question Id : 8946584663 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 correct?

Options :

1. ✖ $A.B \neq B.A$

2. ✔ $A.(B+C) = A.B + C.A$

3. ✖ $A.B = A.B - A.C$

4. ✖ $A.B = -B.A$

Question Number : 56 Question Id : 8946584664 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 acceleration due to gravity on the surface of the earth is given by_____

Options :

1. ✖ G

2. ✔ GM/R^2

3. ✖ GM/R

4. ✖ GM

Question Number : 57 Question Id : 8946584665 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 value of g is maximum at_____.

Options :

1. ✖ equator

2. ✔ Pole

3. ✖ higher altitudes

4. ✖ at the centre of the earth

Question Number : 58 Question Id : 8946584666 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 speed of rotation of earth increases your weight_____

Options :

1. ✖ increases

2. ✔ decreases

3. ✖ remains constant

4. ✖ becomes zero

Question Number : 59 Question Id : 8946584667 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 value of G is zero at_____

Options :

1. ✔ nowhere

2. ✖ the centre of the earth

3. ✖ surface of the earth

4. ✖ pole

Question Number : 60 Question Id : 8946584668 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 linear momentum is increased by 50%, the kinetic energy will be increased by_____

Options :

1. ✖ 50%

2. ✖ 100%

3. ✔ 125%

4. ✖ 25%

Question Number : 61 Question Id : 8946584669 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 metallic block slides down a smooth inclined plane when released from the top, while the other falls freely from the same point, then_____

Options :

1. ✔ both will reach the ground with the same velocity

2. ✖ both will reach the ground together

3. ✖ both will reach the ground travelling with same acceleration

4. ✖ the block sliding down the plane will strike earlier

Question Number : 62 Question Id : 8946584670 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 long spring is stretched by 2 cm and its potential energy is u. If the spring is stretched by 10 cm, then the potential energy stored in it will be_____.

Options :

1. ✖ u/24

2. ✖ u/5

3. ✖ 5u

4. ✔ 25u

Question Number : 63 Question Id : 8946584671 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Two masses of 1 gm and 4 gm are moving with equal kinetic energies. The ratio of the magnitudes of their linear momentum is _____

Options :

1. ✖ 4:1

2. ✖ $\sqrt{2}$:1

3. ✔ 1:2

4. ✖ 1:16

Question Number : 64 Question Id : 8946584672 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 body is dropped from rest at height 0.5 m. What will be its velocity when it just strikes the ground?

Options :

1. ✖ 7 m/s

2. ✖ 9.8 m/s

3. ✖ 4.9 m/s

4. ✔ $\sqrt{9.8}$ m/s

Question Number : 65 Question Id : 8946584673 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 particle moves such that its acceleration a is given by $a = -bx$ where x is the displacement from equilibrium and b is a constant. The period of Oscillation is_____ .

Note: For this question, discrepancy is found in question/answer. Full Marks is being awarded to all candidates.

Options :

1. $2\Pi b$

2. $2\Pi\sqrt{b}$

3. $2\Pi/b$

4. $2\sqrt{\Pi}/b$

Question Number : 66 Question Id : 8946584674 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 particle is vibrating in simple harmonic motion with amplitude of 4 cm. At what displacement from the equilibrium position is its energy half potential and half kinetic?

Options :

1. ✖ 1 cm

2. ✖ $\sqrt{2}$ cm

3. ✖ 2 cm

4. ✔ $2\sqrt{2}$ cm

Question Number : 67 Question Id : 8946584675 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 a star approaches the earth, the waves are shifted towards _____

Options :

1. ✖ green colour

2. ✖ yellow colour

3. ✔ blue end

4. ✖ red end

Question Number : 68 Question Id : 8946584676 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 tuning fork of frequency 90 is sounded and moved towards an observer with a velocity equal to one tenth the velocity of sound, then the note heard by the observer will have frequency_____.

Options :

1. ✔ 100

2. ✖ 90

3. ✖ 80

4. ✖ 900

Question Number : 69 Question Id : 8946584677 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the most important factor which helps to recognise a person by his/her voice alone_____

Options :

1. ✔ quality

2. ✖ pitch

3. ✖ intensity

4. ✖ quality, pitch and intensity

Question Number : 70 Question Id : 8946584678 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 quality of tone_____

Options :

1. ✖ decreases with loudness

2. ✖ varies inversely as amplitude

3. ✖ varies directly as pitch

4. ✔ depends on the overtones present

Question Number : 71 Question Id : 8946584679 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 conduction of heat from hot body to cold body is an example of_____.

Options :

1. ✖ reversible process

2. ✔ irreversible process

3. ✖ isothermal process

4. ✖ isobaric process

Question Number : 72 Question Id : 8946584680 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

From the isothermal drawn from Andrews experiment, it can be inferred that_____

Options :

1. ✖ CO_2 is a perfect gas

2. ✔ there is continuity of state

3. ✖ there is discontinuity of state

4. ✖ gases like CO_2 and H_2 cannot be liquefied

Question Number : 73 Question Id : 8946584681 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 diesel cycle works at_____

Options :

1. ✖ constant volume

2. ✔ constant pressure

3. ✖ constant temperature

4. ✖ both constant volume and constant temperature

Question Number : 74 Question Id : 8946584682 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 transition temperature of most low temperature superconducting elements is in the range of _____

Options :

1. ✔ zero to 10 k

2. ✖ 10 k to 20 k

3. ✖ 20 k to 50 k

4. ✖ 50 k alone

Question Number : 75 Question Id : 8946584683 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Propagation of light through fiber core is due to_____

Options :

1. ✖ diffraction

2. ✖ interference

3. ✔ total internal reflection

4. ✖ reflection

	Chemistry
Section Id :	89465893
Section Number :	3
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	25
Number of Questions to be attempted:	25

Section Marks: 25
Display Number Panel: Yes
Group All Questions: No

Sub-Section Number: 1
Sub-Section Id: 894658103
Question Shuffling Allowed : Yes

Question Number : 76 Question Id : 8946584684 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 energy orders is correct?

Options :

1. ✔ 6s<4f<5d<6p

2. ✖ 4f<5d<6s<6p

3. ✖ 4f<6s<6p<5d

4. ✖ 6s<6p<5d<4f

Question Number : 77 Question Id : 8946584685 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 element A of atomic number 11 combines with an element B of atomic number 17. The compound formed is _____.

Options :

1. ✖ Covalent AB

2. ✔ Ionic AB

3. ✖ Covalent AB_2

4. ✖ Ionic AB_2

Question Number : 78 Question Id : 8946584686 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 oxidation number of 'S' in S_8, S_2F_2, H_2S respectively are _____.

Options :

1. ✔ 0, +1 and -2

2. ✖ +2, +1 and-2

3. ✖ 0, +1 and +2

4. ✖ -2, +1 and -2

Question Number : 79 Question Id : 8946584687 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 A, B, C and D have the following electronic configurations:

A: $1S^2, 2S^2, 2P^1$

B: $1S^2, 2S^2, 2P^6, 3S^2, 3P^1$

C: $1S^2, 2S^2, 2P^6, 3S^2, 3P^3$

D: $1S^2, 2S^2, 2P^6, 3S^2, 3P^5$

The elements that belong to same group are _____.

Options :

1. ✖ A and C

2. ✖ C and D

3. ✖ A and D

4. ✔ A and B

Question Number : 80 Question Id : 8946584688 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

4.9 gm of H_2SO_4 is present in 2 lit of its solution. The molarity of the solution is _____.

Options :

1. ✖ 0.1 M

2. ✔ 0.025 M

3. ✖ 0.25 M

4. ✖ 0.01 M

Question Number : 81 Question Id : 8946584689 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 molecular weight of H_3PO_4 is 98. The equivalent weight is _____ gram / equivalents.

.

Options :

1. ✖ 98

2. ✖ 49

3. ✔ 32.66

4. ✖ 24.5

Question Number : 82 Question Id : 8946584690 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 the Bronsted acid?

Options :

1. ✖ Cl^-

2. ✖ NH_2^-

3. ✖ CH_3COO^-

4. ✔ NH_4^+

Question Number : 83 Question Id : 8946584691 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 pH of 1 M KOH is ____.

Options :

1. ✖ 12

2. ✖ 11

3. ✔ 14

4. ✖ 13

Question Number : 84 Question Id : 8946584692 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Froth floatation process is used for the _____.

Options :

1. ✖ Oxide ores

2. ✔ Sulphide ores

3. ✖ Chloride ores

4. ✖ Oxide ores and Chloride ores

Question Number : 85 Question Id : 8946584693 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 composition of brass is _____.

Options :

1. ✔ Cu and Zn

2. ✖ Cu and Ni

3. ✖ Cu and Mn

4. ✖ Cu and Fe

Question Number : 86 Question Id : 8946584694 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 statements is correct?

Options :

1. ✖ Cathode is positive terminal in an electrolytic cell

2. ✖ Cathode is negative terminal in a galvanic cell

3. ✔ Reduction occurs at cathode in either of cells

4. ✖ Oxidation occurs at cathode in either of cells

Question Number : 87 Question Id : 8946584695 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 electrolysis of $CuCl_2$ solution using copper electrode, if 2.5 gm of Cu is deposited at cathode, then at anode _____.

Options :

1. ✖ 890 mL of Cl_2 at STP is liberated

2. ✖ 445 mL of O_2 at STP is liberated

3. ✖ 2.5 gm of copper is deposited

4. ✔ a decrease of 2.5 gm of mass takes place

Question Number : 88 Question Id : 8946584696 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 resistivity is _____.

Options :

1. ✖ Ω

2. ✔ Ω m

3. ✖ Ω /m

4. ✖ $\Omega\, m^2$

Question Number : 89 Question Id : 8946584697 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 metals provide cathodic protection to iron?

Options :

1. ✖ Cu and Ni

2. ✔ Al and Zn

3. ✖ Al and Cu

4. ✖ Co and Ni

Question Number : 90 Question Id : 8946584698 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 chemical composition of rust is _____.

Options :

1. ✖ Fe_3O_4

2. ✖ Fe_3O_3

3. ✔ $Fe_2O_3.\, nH_2O$

4. ✖ $Fe_3O_3.\, xH_2O$

Question Number : 91 Question Id : 8946584699 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

1 ppm of hardness of water is equal to _____.

Options :

1. ✔ 1 part of $CaCO_3$ hardness in 10^6 parts of water

2. ✖ 1 part of $CaCO_3$ hardness in 10^8 parts of water

3. ✖ 1 part of $CaCO_3$ hardness in 10^7 parts of water

4. ✖ 1 part of $CaCO_3$ hardness in 10^5 parts of water

Question Number : 92 Question Id : 8946584700 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 temporary hardness of water is due to the presence of _____.

Options :

1. ✖ $MgCl_2$ and $CaCl_2$

2. ✖ $Ca(NO_3)_2$ and $Mg(NO_3)_2$

3. ✖ $CaSO_4$ and $MgSO_4$

4. ✔ $Ca(HCO_3)_2$ and $Mg(HCO_3)_2$

Question Number : 93 Question Id : 8946584701 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 basic buffer solution is a mixture of _____.

Options :

1. ✔ $NH_3 + NH_4Cl$

2. ✖ $HCl + NH_4Cl$

3. ✖ $NaCl + NH_4Cl$

4. ✖ $KOH + NH_4Cl$

Question Number : 94 Question Id : 8946584702 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 polymers has amide linkage?

Options :

1. ✖ Terylene

2. ✖ Bakelite

3. ✔ Nylon

4. ✖ PVC

Question Number : 95 Question Id : 8946584703 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 monomer of natural rubber is _____.

Options :

1. ✖ Butadiene

2. ✖ Chloroprene

3. ✖ 2-methyl 1,2 butadiene

4. ✔ 2-methyl 1,3 butadiene

Question Number : 96 Question Id : 8946584704 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 a thermo setting?

Options :

1. ✔ Bakelite

2. ✖ Polyethylene

3. ✖ Nylon-6

4. ✖ Natural rubber

Question Number : 97 Question Id : 8946584705 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 composition of water gas is _____.

Options :

1. ✔ CO and H_2 are combustible gases and CO_2 and N_2 are non-combustible gases

2. ✖ CO + CO_2 are combustible gases and H_2O and N_2 non-combustible gases

3. ✖ CO + N_2 are combustible gases and H_2O and H_2 are non-combustible gases

4. ✖ N_2+H_2 are combustible gases and CO + H_2O are non-combustible gases

Question Number : 98 Question Id : 8946584706 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Earth is protected from UV radiation by _____.

Options :

1. ✖ Nitrogen layer

2. ✔ Ozone layer

3. ✖ Carbon dioxide layer

4. ✖ Oxygen layer

Question Number : 99 Question Id : 8946584707 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 following statements is not correct?

Options :

1. ✖ CO is the main air pollutant

2. ✖ All pollutants are not wastes

3. ✔ Water is polluted by dissolved Oxygen

4. ✖ Lichens are pollution indicators

Question Number : 100 Question Id : 8946584708 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Minamata disease is caused due to the presence of _____.

Options :

1. ✖ Cd

2. ✖ Pb

3. ✖ As

4. ✔ Hg

Mining Engineering

Section Id :	89465894
Section Number :	4
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	100
Number of Questions to be attempted:	100
Section Marks:	100
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	894658104
Question Shuffling Allowed :	Yes

Question Number : 101 Question Id : 8946584709 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

1. The vertical approach made for extraction of the deposit is _____.

Options :

1. ✔ Shaft

2. ✖ Incline

3. ✖ Decline

4. ✖ Adit

Question Number : 102 Question Id : 8946584710 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

During the exploration operation, the bore hole is deviated for certain angle from the actual target. The measurement for the deviation of the bore hole is known as _____.

Options :

1. ✖ Exploration

2. ✖ Reconnaissance

3. ✔ Bore hole survey

4. ✖ Levelling

Question Number : 103 Question Id : 8946584711 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 shaft diameter is 6.6 m and depth of the drill hole is 1.5 m. What will be the blasted material if pull per blast is 1.2 m?

Options :

1. ✔ 41 m^3

2. ✖ 41 t

3. ✖ 20.5 m^3

4. ✖ 20.5 t

Question Number : 104 Question Id : 8946584712 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 piling system is used for a depth of _____.

Options :

1. ✖ 40 m

2. ✔ 20 m

3. ✖ 30 m

4. ✖ 25 m

Question Number : 105 Question Id : 8946584713 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 mineral body is excavated with small opencast mining and the excavated mineral is transported to the surface through underground mine is known as _____.

Options :

1. ✔ Glory mining

2. ✖ Rat hole mining

3. ✖ Longwall mining

4. ✖ Leaching

Question Number : 106 Question Id : 8946584714 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:

Mining method	Stripping ratio
p. Manual quarrying	i. 10:1
q. Semi mechanized quarrying	ii. 5:1
r. Shove-dumper combination	iii. 1.5:1
s. Dragline	iv. 2:1

Options :

1. ✖ p-iv; q-i; r-iii; s-ii

2. ✖ p-iii; q-i; r-iv; s-ii

3. ✖ p-iii; q-i; r-ii; s-iv

4. ✔ p-iii; q-iv; r-ii; s-i

Question Number : 107 Question Id : 8946584715 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:

UG method	Types of support
p. Longwall	i. GRP bolts
q. BG	ii. Hydraulic prop
r. Bord and pillar	iii. Shield support
s. Continuous miner	iv. Wooden chock

Options :

1. ✖ p-iv; q-i; r-iii; s-ii

2. ✔ p-iii; q-ii; r-iv; s-i

3. ✖ p-iii; q-i; r-ii; s-iv

4. ✖ p-iii; q-iv; r-ii; s-i

Question Number : 108 Question Id : 8946584716 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 of 1.8 m long column installed at a grid pattern of 1m x 1m and carries a load of 25 tonne. What will be the safety factor of the bolt if the rock load is 50 tonne per m^2 ?

Options :

1. ✖ 2

2. ✔ 0.5

3. ✖ 100

4. ✖ 4

Question Number : 109 Question Id : 8946584717 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Composition of delay element in long delay detonators is _____

Options :

1. ✔ Antimony

2. ✖ LMNR

3. ✖ PETN

4. ✖ Silica

Question Number : 110 Question Id : 8946584718 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 cores of length 5 cm, 10 cm, 15 cm, 25 cm, 50 cm,75 cm, 8cm and 2 cm are recorded for a bore hole lagging of 2 m depth. Then core recovery is _____.

Options :

1. ✔ 95%

2. ✖ 87.5%

3. ✖ 90%

4. ✖ 100%

Question Number : 111 Question Id : 8946584719 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 second largest coal producer of India is _____.

Options :

1. ✖ CIL

2. ✔ SCCL

3. ✖ NLC

4. ✖ Tata Steel

Question Number : 112 Question Id : 8946584720 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 middle part of the earth is _____.

Options :

1. ✖ Crust

2. ✔ Mantle

3. ✖ Core

4. ✖ Outer core

Question Number : 113 Question Id : 8946584721 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 RL of each point on a particular line is maintained as the same. Then this line is _____.

Options :

1. ✖ Dip

2. ✖ Apparent dip

3. ✔ Strike

4. ✖ Winze

Question Number : 114 Question Id : 8946584722 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 volume of material is V_m , volume of solid is V_s and volume of void is V_v. Then porosity of a material is _____.

Options :

1. ✖ V_m/V_s

2. ✖ V_v/V_s

3. ✖ $V_v x\ V_s$

4. ✔ V_v/V_m

Question Number : 115 Question Id : 8946584723 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 limbs of the fold are lifted up, then the fold is known as _____.

Options :

1. ✖ Anticline

2. ✔ Syncline

3. ✖ Joint

4. ✖ Fold

Question Number : 116 Question Id : 8946584724 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 fault, if the part of the coal seam is displaced to 10 m downward and 2 m horizontal, then the throw of the fault is _____.

Options :

1. ✖ 12 m

2. ✔ 10 m

3. ✖ 20 m

4. ✖ 5 m

Question Number : 117 Question Id : 8946584725 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:

Mineral	Hardness
p. Talc	i. 9
q. Gypsum	ii. 7
r. Quartz	iii. 1
s. Corundum	iv. 2

Options :

1. ✖ p-ii; q-i; r-iv; s-iii

2. ✖ p-iii; q-ii; r-iv; s-i

3. ✖ p-iii; q-ii; r-i; s-iv

4. ✔ p-iii; q-iv; r-ii; s-i

Question Number : 118 Question Id : 8946584726 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:

Mineral/ Ore	Area/Mine
p. Diamond	i. Jaduguda
q. Chromite	ii. Panna
r. Uranium	iii. Neyveli
s. Lignite	iv. Sukinda

Options :

1. ✖ p-ii; q-i; r-iv; s-iii

2. ✖ p-iii; q-ii; r-iv; s-i

3. ✔ p-ii; q-iv; r-i; s-iii

4. ✖ p-iii; q-iv; r-ii; s-i

Question Number : 119 Question Id : 8946584727 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Determine the powder factor for a mine gallery of 4.8 m width and 3m height. If the pull is obtained as 1 m per blast; specific gravity of coal is 1.5 t/m^3 and charge per hole is 450 gms.

Options :

1. ✔ 48 t/kg

2. ✖ 0.02 t/kg

3. ✖ 21.6 t/kg

4. ✖ 10.8 kg/t

Question Number : 120 Question Id : 8946584728 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 SDL is _____

Options :

1. ✖ Side Dumping Loader

2. ✔ Side Discharge Loader

3. ✖ Swing Discharge Loader

4. ✖ Swing Dump Loader

Question Number : 121 Question Id : 8946584729 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:

Operation/Method	Machineries
p. LW	i. LHD
q. BG	ii. Shearer
r. CM	iii. Jumbo drill
s. B&P	iv. Quad bolter

Options :

1. ✖ p-ii; q-i; r-iv; s-iii

2. ✖ p-iii; q-ii; r-iv; s-i

3. ✔ p-ii; q-iii; r-iv; s-i

4. ✖ p-iii; q-iv; r-ii; s-i

Question Number : 122 Question Id : 8946584730 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:

Slope failure	Associated with
p. Circular	i. Heavily jointed area
q. Planar	ii. Two or more joints meets
r. Toppling	iii. Open pit
s. Wedge	iv. Weak material

Options :

1. ✖ p-ii; q-i; r-iv; s-iii

2. ✖ p-iii; q-ii; r-iv; s-i

3. ✔ p-iv; q-iii; r-i; s-ii

4. ✖ p-iii; q-iv; r-ii; s-i

Question Number : 123 Question Id : 8946584731 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

During the splitting operation, the pillar is divided into two parts. These parts of the pillar are said to be _____.

Options :

1. ✖ Pillar

2. ✔ Stook

3. ✖ Barrier

4. ✖ Rib

Question Number : 124 Question Id : 8946584732 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 high load concentration area of the pillar is _____.

Options :

1. ✖ Centre of the pillar

2. ✔ Corner of the pillar

3. ✖ Sides of the pillar

4. ✖ Bottom portion of the pillar

Question Number : 125 Question Id : 8946584733 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 size of the pillar (centre to centre) is 45 m x 45 m. If the gallery is driven for a width of 5 m during development operation, then percentage of extraction is _____.

Options :

1. ✔ 21

2. ✖ 10.5

3. ✖ 42

4. ✖ 30

Question Number : 126 Question Id : 8946584734 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 optimum hydraulic gradient (H/L) followed in the mine is _____.

Options :

1. ✔ 1/7

2. ✖ 7/1

3. ✖ 10/1

4. ✖ 1/20

Question Number : 127 Question Id : 8946584735 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 high subsidence is associated with _____.

Options :

1. ✖ B&P

2. ✖ BG

3. ✔ LW

4. ✖ CM

Question Number : 128 Question Id : 8946584736 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 coal bench of 100 m length, 20 m width and 10 m height is blasted and the muck is generated after blasting operation is 25000 m^3. Then the Swell Factor is _____.

Options :

1. ✖ 0.95

2. ✔ 0.8

3. ✖ 0.7

4. ✖ 0.75

Question Number : 129 Question Id : 8946584737 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 shovel of 5 m^3 is deployed in the open cast coal mine, fill factor is 0.7, swell factor is 0.5, specific gravity is 1.3 and cycle time of the shovel is 30 sec per pass. What will be material to be handled per hour?

Options :

1. ✔ 273 T

2. ✖ 252 T

3. ✖ 300 T

4. ✖ 285 T

Question Number : 130 Question Id : 8946584738 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 coal seam thickness of 6 m is deployed with DERD shearer for extraction of 3m height, web cut of shearer is 0.85 m, diameter of drum is 1.8 m, face length is 250 m, sp.gr of coal is 1.5T/m^3 and length of panel is 4 kms. The production per cut is _____.

Options :

1. ✖ 573.75 T

2. ✖ 100 T

3. ✔ 956.25 T

4. ✖ 976 T

Question Number : 131 Question Id : 8946584739 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 incline approach in the form of spiral made for the exploitation of the metal deposit is _____

Options :

1. ✖ Incline

2. ✔ Decline

3. ✖ Shaft

4. ✖ Punch entry

Question Number : 132 Question Id : 8946584740 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 vertical stress on a coal pillar is 10 MPa and poisons ratio is 0.25. Then horizontal stress is _____

Options :

1. ✔ 3.33 MPa

2. ✖ 2.5 MPa

3. ✖ 40 MPa

4. ✖ 0.33 MPa

Question Number : 133 Question Id : 8946584741 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What will be the depth of hole for a blast hole dia of 165 mm in VCR method?

Options :

1. ✔ 990 mm

2. ✖ 825 mm

3. ✖ 1155 mm

4. ✖ 1320 mm

Question Number : 134 Question Id : 8946584742 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 2D body; the stress components are σ_{xx}= 5 MPa, σ_{yy}= 2 MPa, σ_{xy} = 0.5 MPa. What will be the normal stress acting on a plane making an angle of 45° with horizontal?

Options :

1. ✖ 1.5 MPa

2. ✔ 3.5 MPa

3. ✖ 2.5 MPa

4. ✖ 5 MPa

Question Number : 135 Question Id : 8946584743 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:

Type of ore bodies	**Suitable method**
p. Thin bodies	i. Shrinkage stope
q. Thick bodies	ii. Resuing
r. Narrow veins	iii. Longwall
s. Massive	iv. Room and pillar

Options :

1. ✔ p-iii; q-iv; r-ii; s-i

2. ✖ p-iii; q-ii; r-iv; s-i

3. ✖ p-iv; q-iii; r-i; s-ii

4. ✖ p-iii; q-iv; r-i; s-ii

Question Number : 136 Question Id : 8946584744 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 of lead is _____

Options :

1. ✖ Sphalerite

2. ✔ Galena

3. ✖ Bauxite

4. ✖ Chalcopyrite

Question Number : 137 Question Id : 8946584745 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 force acts in the cyclone for separation of particles is _____

Options :

1. ✖ Cohesive force

2. ✖ Tensile force

3. ✔ Centrifugal force

4. ✖ Compressive force

Question Number : 138 Question Id : 8946584746 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:

Tests	Purpose
p. Brazilian test	i. C and Φ
q. Protodyknov test	ii. Durability
r. Triaxial test	iii. Compressive strength
s. SDI test	iv. Tensile strength

Options :

1. ✖ p-iv; q-iii; r-ii; s-i

2. ✔ p-iv; q-iii; r-i; s-ii

3. ✖ p-iii; q-ii; r-iv; s-i

4. ✖ p-ii; q-iv; r-i; s-iii

Question Number : 139 Question Id : 8946584747 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 at the pit A and pit B are 30 and 45 degrees centigrade respectively.

Then the air flow due to NVP is _____

Options :

1. ✖ No air flow

2. ✔ A to B

3. ✖ B to A

4. ✖ Storm

Question Number : 140 Question Id : 8946584748 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 motive column is 10m, density of air is 1.2 kg/m^3 and gravity force is 9.81 m/s^2. Then NVP is _____.

Options :

1. ✖ 117.72 N

2. ✖ 117.72 MPa

3. ✖ 117.72 KPa

4. ✔ 117.72 Pa

Question Number : 141 Question Id : 8946584749 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 size of road way is 4m x 3m x 1000m and coefficient resistance is 0.003 Ns^2/m^4. Then the resistance of the road way in Ns^2/m^8 is _____

Options :

1. ✔ 0.024

2. ✖ 0.0165

3. ✖ 0.03125

4. ✖ 3125

Question Number : 142 Question Id : 8946584750 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 fan is running with a speed of 100 rpm delivers a quantity of 12000 m^3/min and what will be the speed of the fan in rpm, if the same delivers a quantity of 100 m^3/s?

Options :

1. ✖ 100

2. ✖ 400

3. ✖ 200

4. ✔ 50

Question Number : 143 Question Id : 8946584751 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 gas which reacts with the haemoglobin and forms as carboxyhemoglobin _____.

Options :

1. ✖ O_2

2. ✔ CO

3. ✖ N_2

4. ✖ CH_4

Question Number : 144 Question Id : 8946584752 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:

Gases	**Specific gravity**
p. CH_4	i. 1.52
q. CO	ii. 1.105
r. O_2	iii. 0.56
s. CO_2	iv. 0.967

Options :

1. ✔ p-iii; q-iv; r-ii; s-i

2. ✖ p-iii; q-ii; r-iv; s-i

3. ✖ p-iv; q-iii; r-i; s-ii

4. ✖ p-iii; q-iv; r-i; s-ii

Question Number : 145 Question Id : 8946584753 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 bord and pillar panel producing 200 tons per day, the circulation of quantity is 120 m^3/min and the methane emission is 20%. Then the degree of seam is ____.

Options :

1. ✖ Deg I

2. ✖ Deg II

3. ✔ Deg III

4. ✖ Deg IV

Question Number : 146 Question Id : 8946584754 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 resistance of the regulator in the gallery of 4.2m x 3m size is 4 NS^2 / m^8. Then the size of regulator is _____.

Options :

1. ✖ 0.2975 m^2

2. ✔ 0.595 m^2

3. ✖ 4.76 m^2

4. ✖ 3.57 m^2

Question Number : 147 Question Id : 8946584755 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 mine consists of two splits A and B and the quantity flowing in the splits is 10 m^3/s and 25 m^3/s respectively. What is to be fitted in split B to reduce the quantity of B split?

Options :

1. ✖ Booster

2. ✔ Regulator

3. ✖ Main fan

4. ✖ Fans in series

Question Number : 148 Question Id : 8946584756 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the pressure gained by the evasee if the air velocities are 5 m/s and 3 m/s at the inlet and outlet respectively? (Assume g =10 m/s^2)

Options :

1. ✔ 0.8 m

2. ✖ 1.6 m

3. ✖ 3.2 m

4. ✖ 32 m

Question Number : 149 Question Id : 8946584757 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 mine air sample has the composition of O_2=17%, CO_2= 2.5%, N_2=76.5% and CO = 4%, what will be the CO/O_2 ratio?

Options :

1. ✖ 10.12

2. ✔ 1.012

3. ✖ 0.1012

4. ✖ 101.2

Question Number : 150 Question Id : 8946584758 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 mine air sample has the composition of O_2=17%, CO_2= 2.5%, N_2=76.5% and CO=4%. Then white damp is _____.

Options :

1. ✔ 4 %

2. ✖ 19.5%

3. ✖ 79%

4. ✖ 100%

Question Number : 151 Question Id : 8946584759 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 plotting the Coward's diagram, the values of _____ gas are considered on X-axis.

Options :

1. ✖ Oxygen

2. ✔ Methane

3. ✖ Nitrogen

4. ✖ Carbon monoxide

Question Number : 152 Question Id : 8946584760 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 heating of coal without application of any heat source is known as _____.

Options :

1. ✔ Spontaneous heating

2. ✖ Incubation period

3. ✖ Lagon ignition

4. ✖ Delay period

Question Number : 153 Question Id : 8946584761 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 mine air composition consists of CH_4 = 7% ; O_2 = 14 % ; N_2 = 74% CO_2 = 5%. Then the mine air is _____

Options :

1. ✖ Not capable of forming explosible

2. ✔ Explosible

3. ✖ Not explosible

4. ✖ Capable of forming explosible

Question Number : 154 Question Id : 8946584762 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:

Gases	**Damp**
p. CH_4	i. Black damp
q. CO	ii. Fire damp
r. H_2S	iii. Stink damp
s. $CO_2 + CH_4$	iv. White damp

Options :

1. ✖ p-iii; q-iv; r-ii; s-i

2. ✔ p-ii; q-iv; r-iii; s-i

3. ✖ p-iv; q-iii; r-i; s-ii

4. ✖ p-iii; q-iv; r-i; s-ii

Question Number : 155 Question Id : 8946584763 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:

Fire type	Associated with
p. Class A	i. Liquids
q. Class B	ii. Timber
r. Class C	iii. Metal
s. Class D	iv. Gas

Options :

1. ✖ p-iii; q-iv; r-ii; s-i

2. ✔ p-ii; q-i; r-iv; s-iii

3. ✖ p-iv; q-iii; r-i; s-ii

4. ✖ p-iii; q-iv; r-i; s-ii

Question Number : 156 Question Id : 8946584764 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 miners killed in Chasnala mine inundation disaster is _____.

Options :

1. ✔ 375

2. ✖ 275

3. ✖ 175

4. ✖ 475

Question Number : 157 Question Id : 8946584765 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 lung governing value automatically adjusts when the wearer requirement of O_2 is higher than _____.

Options :

1. ✖ 2 lit/min

2. ✔ 1.5 lit/min

3. ✖ 3 lit/min

4. ✖ 4 lit/min

Question Number : 158 Question Id : 8946584766 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 disease resulted due to insufficient light is _____.

Options :

1. ✔ Nystagmus

2. ✖ Pneumoconiosis

3. ✖ Silicosis

4. ✖ Siderosis

Question Number : 159 Question Id : 8946584767 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 whole circle bearing of a line AB is 145^0, then quadrantal bearing is ___.

Options :

1. ✔ S 35^0 E

2. ✖ N 35^0 E

3. ✖ S 35^0 W

4. ✖ N 35^0 W

Question Number : 160 Question Id : 8946584768 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 fore bearing of a line is 45^0, then back bearing is _____.

Options :

1. ✔ 225^0

2. ✖ 185^0

3. ✖ 180^0

4. ✖ 45^0

Question Number : 161 Question Id : 8946584769 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 bearing of a line is 60^0 and declination is east 10^0. Then true bearing is _____.

Options :

1. ✖ 50^0

2. ✔ 70^0

3. ✖ 170^0

4. ✖ 45^0

Question Number : 162 Question Id : 8946584770 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What will be the included angle for a traverse of having 4 sides?

Note: For this question, discrepancy is found in question/answer. Full Marks is being awarded to all candidates.

Options :

1. 63^0

2. 31^0

3. 126^0

4. 18^0

Question Number : 163 Question Id : 8946584771 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 full form of EDM is _____.

Options :

1. ✖ Electronic Distance Music

2. ✔ Electronic Distance Measurement

3. ✖ Electrode Distance Measurement

4. ✖ Electrode Distance Music

Question Number : 164 Question Id : 8946584772 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:

Survey instrument	**Measurements**
p. Chain	i. Horizontal angles
q. Compass	ii. Distance
r. Theodolite	iii. RL
s. Dumpy level	iv. Horizontal and vertical angles

Options :

1. ✖ p-iii; q-iv; r-ii; s-i

2. ✔ p-ii; q-i; r-iv; s-iii

3. ✖ p-iv; q-iii; r-i; s-ii

4. ✖ p-iii; q-iv; r-i; s-ii

Question Number : 165 Question Id : 8946584773 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

RL of the bench mark is 100 m; readings of back sight and fore sight are 2.5 m and 1.5 m respectively. Then height of the instrument is _____.

Options :

1. ✖ 101.5 m

2. ✔ 102.5 m

3. ✖ 104 m

4. ✖ 96 m

Question Number : 166 Question Id : 8946584774 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 setting the theodlite over or under station mark is _____.

Options :

1. ✔ Centering

2. ✖ Transisting

3. ✖ Face left

4. ✖ Face right

Question Number : 167 Question Id : 8946584775 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 latitude and departure of the traverse are 50 m and 50 m respectively, then length of the closing line is _____.

Options :

1. ✔ 70.71 m

2. ✖ 25 m

3. ✖ 50 m

4. ✖ 100.71 m

Question Number : 168 Question Id : 8946584776 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 radius of curve is 30 m and angle subtended by the chord is 90^0. Then chord length is _____.

Options :

1. ✔ 42.42 m

2. ✖ 50 m

3. ✖ 30 m

4. ✖ 60.32 m

Question Number : 169 Question Id : 8946584777 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Resistance to impact loading is known as _____

Options :

1. ✔ Toughness

2. ✖ Hardness

3. ✖ Brittleness

4. ✖ Resilience

Question Number : 170 Question Id : 8946584778 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Detaching hook is placed just below the _____.

Options :

1. ✔ Rope capel

2. ✖ Triangular plate

3. ✖ Cage chain

4. ✖ Cage

Question Number : 171 Question Id : 8946584779 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 standing ropes are used in _____.

Options :

1. ✖ Haulage

2. ✔ Shaft

3. ✖ Shovel

4. ✖ Dragline

Question Number : 172 Question Id : 8946584780 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 central wire in the strand is known as _____.

Options :

1. ✖ Queen

2. ✔ King

3. ✖ Conquer

4. ✖ Pawn

Question Number : 173 Question Id : 8946584781 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 torque for a winder is 100 kNm, the cylindrical drum dia is 5 m and maximum speed of rope is 5 m/s. Then power of motor is _____

Options :

1. ✔ 200 kW

2. ✖ 100 kW

3. ✖ 150 kW

4. ✖ 300 kW

Question Number : 174 Question Id : 8946584782 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 a part of the endless rope haulage.

Options :

1. ✖ Clifton pulley

2. ✔ Jig pulley

3. ✖ Lashing chain

4. ✖ Screw clip

Question Number : 175 Question Id : 8946584783 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 belt of 0.1 w^2 m^2 area carries a load of 60 T/hr, speed of the belt is 60 m/min and density of coal is 1.5 t/m^3. Then width of the belt is _____

Options :

1. ✖ 3 m

2. ✔ 0.33 m

3. ✖ 4 m

4. ✖ 0.25 m

Question Number : 176 Question Id : 8946584784 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 mine tub weighs 1.5 tonnes travels round a curve of 30 m radius at a speed of 72 km/hr. If the gauge is 1.2 m. The super elevation of outer rail is _____

Options :

1. ✖ 1.3 m

2. ✔ 1.63 m

3. ✖ 1.36 m

4. ✖ 2.45 m

Question Number : 177 Question Id : 8946584785 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:

Haulage/Transport system	**Limiting gradient**
p. Endless	i. 1 in 6
q. Direct	ii. 1in 10
r. Locomotive	iii. 1 in 1.5
s. ACC	iv. 1 in 25

Note: For this question, discrepancy is found in question/answer. Full Marks is being awarded to all candidates.

Options :

1. p-ii; q-i; r-iv; s-iii

2. p-iii; q-ii; r-i; s-iv

3. p-iv; q-i; r-iii; s-ii

4. p-i; q-ii; r-iii; s-iv

Question Number : 178 Question Id : 8946584786 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 coal seam thickness is 1.5 m, then what is the height of the man hole?

Options :

1. ✖ 1.8 m

2. ✖ 2 m

3. ✔ 1.5 m

4. ✖ 2.5 m

Question Number : 179 Question Id : 8946584787 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Automatic contrivances should be provided for every shaft exceeding minimum depth of _____.

Options :

1. ✖ 50 m
2. ✖ 80 m
3. ✔ 100 m
4. ✖ 150 m

Question Number : 180 Question Id : 8946584788 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 breaks are applied for a depth of _____

Options :

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

https://www.freshersnow.com/previous-year-question-papers/

Question Number : 181 Question Id : 8946584789 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 brakes is automatically applied if the power failure occurs?

Options :

1. ✖ Mechanical brake
2. ✔ Thrustor brake
3. ✖ Regenerative brake
4. ✖ Electric break

Question Number : 182 Question Id : 8946584790 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 fleet angle in keope winding system is _____

Options :

1. ✖ 5^0

2. ✖ 10^0

3. ✔ 0^0

4. ✖ 15^0

Question Number : 183 Question Id : 8946584791 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 related to underground face machinery?

Options :

1. ✖ AM-50

2. ✖ Bolter miner

3. ✖ Shearer

4. ✔ Scraper

Question Number : 184 Question Id : 8946584792 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Face supports used in longwall method is _____

Options :

1. ✔ Shield support

2. ✖ Hydraulic prop

3. ✖ Roof stitching

4. ✖ Bamboo bolt

Question Number : 185 Question Id : 8946584793 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 area of the leg is 0.125 m^2 , then the capacity of each hydraulic leg of 2 x 152T shield support is _____

Options :

1. ✖ 45 MPa

2. ✔ 46.08 MPa

3. ✖ 27 MPa

4. ✖ 31.5 MPa

Question Number : 186 Question Id : 8946584794 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 fleet angle maintained in drum winding system is _____

Options :

1. ✔ 1.5^0

2. ✖ 2.5^0

3. ✖ 6^0

4. ✖ 10^0

Question Number : 187 Question Id : 8946584795 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:

Technology	Machine
p. B&P	i. Shearer
q. BG	ii. Shuttle car
r. CM	iii. Jumbo drill
s. LW	iv. SDL

Options :

1. ✖ p-iii; q-iv; r-ii; s-i

2. ✖ p-ii; q-i; r-iv; s-iii

3. ✔ p-iv; q-iii; r-ii; s-i

4. ✖ p-iii; q-iv; r-i; s-ii

Question Number : 188 Question Id : 8946584796 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Safety catches are fitted at an interval of _____

Options :

1. ✔ 0.3 – 1 m

2. ✖ 0.5 – 5 m

3. ✖ 1 – 2 m

4. ✖ 2 – 5 m

Question Number : 189 Question Id : 8946584797 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 manager shall submit the annual return in respect of the previous year on or before _____

Options :

1. ✔ 1st Feb

2. ✖ 28th Feb

3. ✖ 1st March

4. ✖ 1st April

Question Number : 190 Question Id : 8946584798 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

How many attempts that any candidate is allowed to write examinations conducted by the board of examinations, DGMS Dhanbad?

Options :

1. ✖ 5

2. ✔ 7

3. ✖ 9

4. ✖ 10

Question Number : 191 Question Id : 8946584799 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 velocity of air shall be maintained at longwall face for degree 2 gassy seam is _____

Options :

1. ✔ 60 m/min

2. ✖ 75 m/min

3. ✖ 10 m/min

4. ✖ 100 m/min

Question Number : 192 Question Id : 8946584800 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 O_2 in the air to be maintained at any part of the mine where the man power is required to work is _____

Options :

1. ✖ 15 %

2. ✔ 19 %

3. ✖ 20 %

4. ✖ 10 %

Question Number : 193 Question Id : 8946584801 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 width of gallery is allowed to drive in the mine is _____

Options :

1. ✖ 4.2 m

2. ✔ 4.8 m

3. ✖ 5.6 m

4. ✖ 3 m

Question Number : 194 Question Id : 8946584802 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 qualification of mine manager for the mine producing 3000 tonnes of coal per month is _____

Options :

1. ✖ SMC

2. ✔ FMC

3. ✖ OMC

4. ✖ Tech

Question Number : 195 Question Id : 8946584803 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 work men inspector shall be appointed in the mine when the number of persons employed is _____.

Options :

1. ✔ 500

2. ✖ 450

3. ✖ 250

4. ✖ 400

Question Number : 196 Question Id : 8946584804 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 floor area of shelter is maintained as _____.

Options :

1. ✖ 10 sq.m

2. ✔ 14 sq.m

3. ✖ 25 sq.m

4. ✖ 5 sq.m

Question Number : 197 Question Id : 8946584805 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 water shall be provided with a scale of _____

Options :

1. ✔ 2 lit/ person

2. ✖ 4 lit/ person

3. ✖ 1 lit/ person

4. ✖ 5 lit/ person

Question Number : 198 Question Id : 8946584806 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 first aid room shall be provided at the mine when the manpower employed at any time in preceding year is _____

Options :

1. ✖ 100 persons

2. ✔ 150 persons

3. ✖ 200 persons

4. ✖ 300 persons

Question Number : 199 Question Id : 8946584807 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Anemometer is used for measuring the _____

Options :

1. ✖ Pressure

2. ✖ Quantity of air

3. ✔ Air velocity

4. ✖ Area of gallery

Question Number : 200 Question Id : 8946584808 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Dry bulb and wet bulb temperature in the underground mine area recorded as 35° C and 25° C respectively. Then relative humidity of air is _____.

Options :

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