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 20th May 2023 Shift1 SET1
Subject Name :	Mining Engineering
Creation Date :	2023-05-20 13:03:37
Duration :	180
Total Marks :	200
Display Marks:	No
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?	Yes
Change Font Color :	No
Change Background Color :	No
Change Theme :	No

Help Button :	No
Show Reports :	No
Show Progress Bar :	No

Mining Engineering

Group Number :	1
Group Id :	15920732
Group Maximum Duration :	0
Group Minimum Duration :	180
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	200
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No

Mathematics

Section Id :	159207122
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	50
Number of Questions to be attempted :	50
Section Marks :	50
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0

Sub-Section Number : 1

Sub-Section Id : 159207143

Question Shuffling Allowed : Yes

Is Section Default? : null

Question Number : 1 Question Id : 1592076216 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Let $A=\begin{bmatrix} 3 & 1 \\ -1 & 2 \end{bmatrix}$. If $A^2 = \alpha A + \beta I$, where I is the 2 x 2 identity matrix, then (α, β) =

Options :

1. ✖ $(5, 7)$

2. ✖ $(-5, -7)$

3. ✖ $(-5, 7)$

4. ✔ $(5, -7)$

Question Number : 2 Question Id : 1592076217 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If (a + b + c) = 5, then

$$\det\begin{bmatrix} a-b-c & 2b & 2c \\ 2a & b-c-a & 2c \\ 2a & 2b & c-a-b \end{bmatrix} =$$

Options :

1. ✖ 5

2. ✖ 25

3. ✔ 125

4. ✖ 625

Question Number : 3 Question Id : 1592076218 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $\begin{bmatrix} 4 & 3 \\ 9 & 7 \end{bmatrix}\begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 18 \\ 41 \end{bmatrix}$, then $12x + 10y =$

Options :

1. ✖ 58

2. ✔ 56

3. ✖ 54

4. ✖ 52

Question Number : 4 Question Id : 1592076219 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $\log_{16} x + \log_4 x + \log_2 x = 7$, then x =

Options :

1. ✔ 16

2. ✖ 32

3. ✖ 64

4. ✖ 128

Question Number : 5 Question Id : 1592076220 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $\frac{2x^2-6x+5}{x^3-6x^2+11x-6} = \frac{A}{x-1} + \frac{B}{x-2} + \frac{C}{x-3}$, then $10A + B + 2C =$

Options :

1. ✖ 5

2. ✖ 7

3. ✔ 9

4. ✖ 11

Question Number : 6 Question Id : 1592076221 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $\log_x (3x^2 + 10x) = 3$, then $x =$

Options :

1. ✖ 3

2. ✔ 5

3. ✖ 7

4. ✖ 9

Question Number : 7 Question Id : 1592076222 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The value of $\sin^2 45^o + \sin^2 135^o + \sin^2 225^o + \sin^2 315^o$ is

Options :

1. ✖ 1

2. ✔ 2

3. ✖ 0

4. ✖ 4

Question Number : 8 Question Id : 1592076223 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In a ΔABC, if a = 3, b = 4 and $\sin A = \frac{3}{4}$, then the angle B =

Options :

1. ✖ 45^o

2. ✖ 60^o

3. ✔ 90^o

4. ✖ 70^o

Question Number : 9 Question Id : 1592076224 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$\sin^2 36^o - \sin^2 18^o =$

Options :

1. ✖ $\frac{1}{2}$

2. ✔ $\frac{1}{4}$

3. ✖ $\frac{1}{8}$

4. ✖ 1

Question Number : 10 Question Id : 1592076225 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The period of the function $\cos\left(\frac{5}{3}\right)\sin\left(\frac{2x}{3}\right)+\sin\left(\frac{5}{3}\right)\cos\left(\frac{2x}{3}\right)$ is

Options :

1. ✖ π

2. ✖ 2π

3. ✔ 3π

4. ✖ $\frac{3\pi}{2}$

Question Number : 11 Question Id : 1592076226 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $\cosh x = \frac{5}{4}$, then $\coth 2x =$

Options :

1. ✔ $\frac{17}{15}$

2. ✖ $\frac{5}{3}$

3. ✖ $\frac{15}{17}$

4. ✖ $\frac{3}{5}$

Question Number : 12 Question Id : 1592076227 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The modulus of the complex number $\frac{2+i}{3-i}$ is

Options :

1. ✖ $\frac{1}{\sqrt{3}}$

2. ✖ 1

3. ✖ $\sqrt{2}$

4. ✔ $\frac{1}{\sqrt{2}}$

Question Number : 13 Question Id : 1592076228 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If the sides of a triangle are 13,7 and 8, then the greatest angle of the triangle is

Options :

1. ✖ $\frac{\pi}{3}$

2. ✖ $\frac{\pi}{2}$

3. ✔ $\frac{2\pi}{3}$

4. ✖ $\frac{3\pi}{2}$

Question Number : 14 Question Id : 1592076229 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If the angles of a triangle are in the ratio of $1:4:5$, then the ratio of the greatest side to the smallest side is

Options :

1. ✔ $4:\sqrt{5}-1$

2. ✖ 5:4

3. ✖ $\sqrt{5}$-1:4

4. ✖ $4:\sqrt{5}$

Question Number : 15 Question Id : 1592076230 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Number of tangents drawn at a point of the circle is

Options :

1. ✔ One

2. ✖ Two

3. ✖ Three

4. ✖ Many

Question Number : 16 Question Id : 1592076231 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The minimum value of $f(x) = |x-2| + |x+2|$ is

Options :

1. ✖ 0

2. ✖ 2

3. ✔ 4

4. ✖ 8

Question Number : 17 Question Id : 1592076232 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The eccentricity of ellipse $\frac{x^2}{16} + \frac{y^2}{4} = 1$ is

Options :

1. ✖ $2\sqrt{3}$

2. ✖ $\sqrt{2}$

3. ✔

$\frac{\sqrt{3}}{2}$

4. ✖ $\sqrt{3}$

Question Number : 18 Question Id : 1592076233 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ e

2. ✔ e^2

3. ✖ e^3

4. ✖ e^4

Question Number : 19 Question Id : 1592076234 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$$\frac{d}{dx}\left(\sqrt{\sin\sqrt{x}}\right) =$$

Options :

1. ✖ $\frac{1}{4}\frac{\sin\sqrt{x}}{\sqrt{x}}$

2. ✖ $\frac{1}{6}\frac{\cos\sqrt{x}}{\sqrt{x}}$

3. ✔ $\frac{1}{4}\frac{\cos\sqrt{x}}{\sqrt{x}\sqrt{\sin\sqrt{x}}}$

4. ✖ $\frac{1}{2}\frac{\cos\sqrt{x}}{\sqrt{\sin\sqrt{x}}}$

Question Number : 20 Question Id : 1592076235 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $x = 2\cos t - \cos 2t$, $y = 2\sin t - \sin 2t$, then $\frac{dy}{dx}$ at $t=\frac{\pi}{6}$ is

Options :

1. ✖ 0

2. ✔ 1

3. ✖ $\sqrt{3}$

4. ✖ $\frac{1}{\sqrt{3}}$

Question Number : 21 Question Id : 1592076236 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $y = \cos(x + y)$, then $\frac{dy}{dx} =$

Options :

1. ✖ $\frac{1-\sin(x+y)}{\cos x+\cos y}$

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

3. ✖ $\frac{\cos(x+y)}{1+\sin(x+y)}$

4. ✔ $\frac{-\sin(x+y)}{1+\sin(x+y)}$

Question Number : 22 Question Id : 1592076237 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The equation of tangent to the curve $xy = 16$ at P (4, 4) is

Options :

1. ✖ $x + y = 2$

2. ✖ $x + y = 4$

3. ✔ $x + y = 8$

4. ✖ $x + y = 16$

Question Number : 23 Question Id : 1592076238 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The maximum value of $f(x) = \left(\frac{1}{x}\right)^x$ is

Options :

1. ✔ $e^{1/e}$

2. ✖ $\left(\frac{1}{e}\right)^e$

3. ✖ $\left(\frac{1}{e}\right)^{1/e}$

4. ✖ e^e

Question Number : 24 Question Id : 1592076239 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If u (x, y, z) = log $\left(x^3+y^3+z^3-3xyz\right)$, then $\frac{\partial u}{\partial x}+\frac{\partial u}{\partial y}+\frac{\partial u}{\partial z}$ =

Options :

1. ✖ $\frac{1}{x+y+z}$

2. ✖ $\frac{9}{x+y+z}$

3. ✖ $\frac{6}{x+y+z}$

4. ✔ $\frac{3}{x+y+z}$

Question Number : 25 Question Id : 1592076240 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $u(x, y) = \log\left(\frac{x^4+y^4}{x+y}\right)$, then $x\frac{\partial u}{\partial x}+y\frac{\partial u}{\partial y}$ =

Options :

1. ✖ 4

2. ✔ 3

3. ✖ 2

4. ✖ 1

Question Number : 26 Question Id : 1592076241 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$$\int \frac{\sin\left(\tan^{-1}x\right)}{1+x^2}dx =$$

Options :

1. ✔ $-\cos(\tan^{-1}x) + c$

2. ✖ $\cos(\tan^{-1}x) + c$

3. ✖ $\sin(\tan^{-1}x) + c$

4. ✖ $-\sin(\tan^{-1}x) + c$

Question Number : 27 Question Id : 1592076242 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$$\int \frac{1}{e^{2x}+e^{x}}dx$$

Options :

1. ✖ $\log(e^{x}+1) - e^{-x} + c$

2. ✖ $\log\left(\frac{e^{x}+1}{e^{x}}\right)+c$

3. ✔ $\log(e^{-x}+1) - e^{-x} + c$

4. ✖ $\log\left(\frac{e^{-x}}{e^{x}+1}\right)+e^{-x}+c$

Question Number : 28 Question Id : 1592076243 Question Type : MCQ Option

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The value of the integral $\int_{-\frac{\pi}{2}}^{\frac{\pi}{2}} sin\,|x|\,dx$ is

Options :

1. ✖ 0

2. ✖ 1

3. ✖ –2

4. ✔ 2

Question Number : 29 Question Id : 1592076244 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The curves $y = x^2 - 4$ and $y = 1 - x^2$ together enclose an area of

Options :

1. ✖ $10\sqrt{10}$

2. ✖ $5\sqrt{10}$

3. ✔

$\frac{10\sqrt{10}}{3}$

4. ✖ $\frac{10\sqrt{10}}{9}$

Question Number : 30 Question Id : 1592076245 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The RMS value of the f(x) = $\sqrt{\log x}$ on [1, e] is

Options :

1. ✖ $\sqrt{\frac{e}{e-1}}$

2. ✖ $\sqrt{\frac{e-1}{e}}$

3. ✔ $\frac{1}{\sqrt{e-1}}$

4. $\sqrt{e-1}$

Question Number : 31 Question Id : 1592076246 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : Non

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

Correct Marks : 1 Wrong Marks : 0

The approximate value of the integral $\int_0^1 \frac{1}{1+x}dx$, using Trapezoidal rule with h = 0.5, is

Options :

1. ✖ 0.69450

2. ✔ 0.70834

3. ✖ 0.67435

4. ✖ 0.68500

Question Number : 32 Question Id : 1592076247 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The velocity of a body as a function of time is given as

$v(t) = 5e^{-2t} + 4$, where t is in seconds and v is in m/s. The acceleration when t = 5 in m/s^2 is

Options :

1. ✔ $-10e^{-10}$

2. ✖ $-20e^{-10}$

3. ✖ $-30e^{-10}$

4. ✖ $-40e^{-10}$

Question Number : 33 Question Id : 1592076248 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The order and degree of the differential equation

$\frac{d^2y}{dx^2} + \left(\frac{dy}{dx}\right)^2 + x = 0$ respectively are

Options :

1. ✖ 3 and 3

2. ✖ 2 and 2

3. ✖ 2 and 3

4. ✔ 2 and 1

Question Number : 34 Question Id : 1592076249 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The general solution of $ye^x dx + (y-1)dy = 0$ is

Options :

1. ✖ $e^x - \log y = c$

2. ✖ $e^x - y = c$

3. ✖ $e^x - y - \log x = c$

4. ✔ $e^x + y - \log y = c$

Question Number : 35 Question Id : 1592076250 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $sinx\ \frac{dy}{dx} + y\ cosx = x\ sinx$, then $(y-1)sinx =$

Options :

1. ✖

2. ✖ $c + x\ sinx$

3. ✔ $c - x\,cosx$

4. ✖ $c + x\,cosx$

Question Number : 36 Question Id : 1592076251 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The solution of the differential equation

$(e^y + 1)cosx\,dx + e^y sinx\,dy = 0$ is

Options :

1. ✔ $(e^y + 1)sinx = c$

2. ✖ $e^x sinx = c$

3. ✖ $(e^x + 1)cosx = c$

4. ✖ $(e^y - 1)sinx = c$

Question Number : 37 Question Id : 1592076252 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The differential equation satisfied by $y = \frac{A}{x} + B$, (A,B are parameters) is

Options :

1. ✖ $x^2y_1 = y$

2. ✖ $xy_1 + 2y_2 = 0$

3. ✔ $xy_2 + 2y_1 = 0$

4. ✖ $x^2y_1 - 2y = 0$

Question Number : 38 Question Id : 1592076253 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The general solution of $\log(\frac{dy}{dx}) = 3x + 3y$ is

Options :

1. ✖ $e^{3x} + e^{3y} = c$

2. ✖ $e^{-3x} + e^{-3y} = c$

3. ✖ $e^{-3x}+e^{3y}=c$

4. ✔ $e^{3x}+e^{-3y}=c$

Question Number : 39 Question Id : 1592076254 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $y\,dx+y^2dy=x\,dy, x\in\mathbb{R}, y>0$ and $y(1)=1$, then $y(-3)=$

Options :

1. ✔ 3

2. ✖ 2

3. ✖ 1

4. ✖ 5

Question Number : 40 Question Id : 1592076255 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$$L\{\sin 2t - 2t\cos 2t\} =$$

Options :

1. ✖ $\frac{2}{(s^2+4)^2}$

2. ✖ $\frac{8}{(s^2+4)^2}$

3. ✔ $\frac{16}{(s^2+4)^2}$

4. ✖ $\frac{32}{((s^2+4))^2}$

Question Number : 41 Question Id : 1592076256 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$$L\{\cosh 3t\ \cos 3t\} =$$

Options :

1. ✖ $\frac{1}{2}\left[\frac{s-6}{s^2-3s+18}+\frac{s+6}{s^2+3s+18}\right]$

2. ✔

$$\frac{1}{2}\left[\frac{s-3}{s^2-6s+18}+\frac{s+3}{s^2+6s+18}\right]$$

3. ✖ $$\frac{1}{2}\left[\frac{s-4}{s^2-4s+9}+\frac{s-3}{s^2-6s+9}\right]$$

4. ✖ $$\frac{1}{2}\left[\frac{s-6}{s^2+9}+\frac{s+6}{3s^2+9}\right]$$

Question Number : 42 Question Id : 1592076257 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$$L\left\{\frac{1-\cos 3t}{t}\right\}=$$

Options :

1. ✖ $$\frac{1}{2}\log\left(\frac{s^2+9}{s^2+3}\right)$$

2. ✖ $$\frac{1}{2}\log\left(\frac{s}{s+9}\right)$$

3. ✖ $$\frac{1}{2}\log\left(\frac{s}{s^2+9}\right)$$

4.

$\frac{1}{2}\log\left(\frac{s^2+9}{s^2}\right)$

Question Number : 43 Question Id : 1592076258 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The Laplace transform of f(t) = t sin t is F(s) where F(s) =

Options :

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

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

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

4. $\frac{s}{1+s^2}$

Question Number : 44 Question Id : 1592076259 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $L^{-1}\left\{\frac{2s^2-1}{(s^2+1)(s^2+4)}\right\} = f(t)$, then $f\left(\frac{\pi}{2}\right) =$

Options :

1. ✖ 1

2. ✔ −1

3. ✖ 2

4. ✖ −2

Question Number : 45 Question Id : 1592076260 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$\int_0^\infty \frac{e^{-3t}-e^{-6t}}{t}dt =$

Options :

1. ✖ log 6

2. ✖ log 3

3. ✔ log 2

4. ✖ log 18

Question Number : 46 Question Id : 1592076261 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The solution of the differential equation

$y'' - 2y' + 2y = 0$ satisfying $y(0) = y'(0) = 1$ is

Options :

1. ✖ $e^t + e^{-2t}\cos t$

2. ✖ $e^t + \cos t$

3. ✖

4. ✔ $e^t \cos t$

Question Number : 47 Question Id : 1592076262 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The value of the Fourier coefficient a_0 in the Fourier series expansion of $f(x) = x \sin x$ in $(0, 2\pi)$ is

Options :

1. ✖ 2

2. ✔ −2

3. ✖ 1

4. ✖ −1

Question Number : 48 Question Id : 1592076263 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If b_1, b_2 are Fourier coefficients in the Fourier series expansion of $f(x) = |\sin x|$ in $(-\pi, \pi)$, then $b_1 + b_2 =$

Options :

1. ✖ $\frac{2}{\pi}$

2. ✖ $-\frac{2}{\pi}$

3. ✔ 0

4. ✖

$\frac{4}{\pi}$

Question Number : 49 Question Id : 1592076264 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Options :

1. ✖ π

2. ✖ 0

3. ✖ $-\pi$

4. ✔ $\frac{\pi}{2}$

Question Number : 50 Question Id : 1592076265 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $x = \frac{\pi}{2} + \sum_{n=1}^{\infty} a_n \cos nx, \quad 0 < x < \pi,$ then the value of a_n is

Options :

1. ✔

$\frac{2}{\pi n^2}\left[(-1)^n - 1\right]$

2. ✖ $\frac{2}{\pi n^2}$

3. ✖ 0

4. ✖ $\frac{4}{\pi n^2}$

Physics

Section Id :	159207123
Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	25
Number of Questions to be attempted :	25
Section Marks :	25
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	159207144

Question Shuffling Allowed : Yes

Is Section Default? : null

Question Number : 51 Question Id : 1592076266 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If F is force, x is distance and t is time, then the dimensions of $\frac{b}{a}$ in the equation $F = \frac{b-x}{at}$ are same as that of

Options :

1. ✖ Velocity

2. ✖ Force

3. ✔ Momentum

4. ✖ Time

Question Number : 52 Question Id : 1592076267 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The static friction is

Options :

1. ✖

Equal to the dynamic friction

2. ✔ Always greater than the dynamic friction

3. ✖ Always less than the dynamic friction

4. ✖ Sometimes less than and sometimes equal to dynamic friction

Question Number : 53 Question Id : 1592076268 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A vector A points vertically upward and B points towards north, the vector product of B x A is

Options :

1. ✖ Along west

2. ✔ Along east

3. ✖ Vertically downward

4. ✖ No direction

Question Number : 54 Question Id : 1592076269 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A Vector A has magnitude 9/2 unit towards north, the direction of vector -6A and 8A .

Options :

1. ✖ -27 units and 36 units towards south

2. ✖ -27 units and 36 units towards north

3. ✔ -27 units towards south and 36 units towards north

4. ✖ -27 units towards west and 36 units towards east

Question Number : 55 Question Id : 1592076270 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The Angular displacement of a particle is described as $\theta = 2t + 3t^2$, the angular velocity (in rad/sec) at t = 2 sec is

Options :

1. ✖ 2

2. ✖ 6

3. ✖ 16

4. ✔ 14

Question Number : 56 Question Id : 1592076271 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The acceleration of a car moving on a straight road with a constant velocity of 40 m/sec is

Options :

1. ✖ $30\ m/s^2$

2. ✖ $20\ m/s^2$

3. ✔ $0\ m/s^2$

4. ✖ $40\ m/s^2$

Question Number : 57 Question Id : 1592076272 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Two wires of same length and made with same material are stretched with the same force. If the radii of the wires are in the ratio 1:3, then the ratio of their elongations is

Options :

1. ✖ 1:3

2. ✔ 9:1

3. ✖ 3:1

4. ✖ 1:9

Question Number : 58 Question Id : 1592076273 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Along a stream line flow of fluid

Options :

1. ✖ The velocity of all fluid particles at a given instant is constant.

2. ✖ The velocity of a fluid particle remains constant.

3. ✔ The velocity of all fluid particles crossing a given position is constant.

4. ✖ The speed of a fluid particle remains constant.

Question Number : 59 Question Id : 1592076274 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following gives the relation between C_p and C_v

Options :

1. ✔ $C_p - C_v = R$

2. ✖ $Cp = Cv$

3. ✖ $Cp - Cv > R$

4. ✖ $Cp / Cv = R$

Question Number : 60 Question Id : 1592076275 Question Type : MCQ Option

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Compressed air coming out of punctured football becomes cooler because.

Options :

1. ✔ Adiabatic expansion

2. ✖ Isothermal expansion

3. ✖ Energy dissipation

4. ✖ See-beck effect

Question Number : 61 Question Id : 1592076276 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The work done (Joule) by a 1 mole of a perfect gas when it expands isothermally to double its volume. The initial temperature of the gas is 0^0C and R = 8.31×10^7 erg- mol^{-1} . K^{-1}. ($\log_{10}2 = 0.3010$)

Options :

1. ✖ 15.72 joule

2.

✖ 157.2 joule

3. ✔ 1572 joule

4. ✖ 1.572 joule

Question Number : 62 Question Id : 1592076277 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The energy possessed by an object, by virtue of its motion is termed as

Options :

1. ✖ Potential Energy

2. ✔ Kinetic Energy

3. ✖ Gravitational Energy

4. ✖ Nuclear Energy

Question Number : 63 Question Id : 1592076278 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

At what speed the observer must move towards a stationary source so that the apparent frequency will be double the original frequency of the source? The velocity of sound is V.

Options :

1. ✔ V

2. ✖ $\frac{V}{2}$

3. ✖ $2V$

4. ✖ $\frac{V}{4}$

Question Number : 64 Question Id : 1592076279 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The displacement equation of a particle executes SHM is given by $y = a \sin \omega t + b \cos \omega t$, the resultant amplitude is

Options :

1. ✔ $(a^2 + b^2)^{1/2}$

2. ✖ (a +b)

3. ✖ $(a + b)^{1/2}$

4. ✖ Zero

Question Number : 65 Question Id : 1592076280 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The periodic time (T) of simple pendulum is observed for different lengths (L). If a graph of $\log_{10}L$ against $\log_{10}T$ is plotted, the slope of the graph will be

Options :

1. ✖ 1/2

2. ✖ -1/2

3. ✖ $(2)^{1/2}$

4. ✔ 2

Question Number : 66 Question Id : 1592076281 Question Type : MCQ Option

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The maximum velocity of a particle performing SHM is 0.12 m/sec, if its maximum acceleration is 0.48 m/sec^2, then its time period (sec) is

Options :

1. ✖ 1.54

2. ✖ 1.59

3. ✔ 1.57

4. ✖ 1.75

Question Number : 67 Question Id : 1592076282 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The minimum energy required to take out an electron from an alkali metal is called

Options :

1. ✖ Kinetic Energy

2. ✖ Potential Energy

3. ✖ Gibbs Free Energy

4. ✔ Work Function

Question Number : 68 Question Id : 1592076283 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

N_1 and N_2 be the number of atoms in the ground and excited states. Then the condition for population inversion is

Options :

1. ✖ $N_1 = N_2$

2. ✖ $N_1 > N_2$

3. ✔ $N_2 > N_1$

4. ✖ $N_2 = 0$

Question Number : 69 Question Id : 1592076284 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Two magnets have magnetic moments in the ratio 2:1. Their pole strengths are in the ratio 1:2. Then the ratio of their magnetic lengths is

Options :

1. ✖ 1:4

2. ✖ 1:1

3. ✖ 2:3

4. ✔ 4:1

Question Number : 70 Question Id : 1592076285 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The susceptibility of para magnetic material is

Options :

1. ✔ Positive and small

2. ✖ Positive and large

3. ✖ Negative

4. ✖ Zero

Question Number : 71 Question Id : 1592076286 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

There are three equal resistors, how many different combinations of these resisters are possible.

Options :

1. ✔ Four

2. ✖ Two

3. ✖ Three

4. ✖ Five

Question Number : 72 Question Id : 1592076287 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which one of the following is the perfect diamagnetic?

Options :

1. ✖ Any conductor

2. ✖ P-Type semiconductor

3. ✖ N-Type semiconductor

4. ✔ Superconductor

Question Number : 73 Question Id : 1592076288 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The current in the PN junction diode during the reverse bias is the result of

Options :

1. ✖ Majority carriers

2. ✔ Minority carriers

3. ✖ Both majority and minority carriers

4. ✖ Only electrons

Question Number : 74 Question Id : 1592076289 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following has maximum energy gap?

Options :

1. ✔ Insulators

2. ✖ Superconductors

3. ✖ Metals

4. ✖ Semiconductors

Question Number : 75 Question Id : 1592076290 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is true for Fermi energy level for p-type extrinsic semiconductor?

Options :

1. ✖ At middle of the band gap

2. ✔ Close to valence band

3. ✖ Close to conduction band

4. ✖ Fermi level does not exist

Chemistry

Section Id :	159207124
Section Number :	3
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	25
Number of Questions to be attempted :	25
Section Marks :	25
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	159207145
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 76 Question Id : 1592076291 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The values of Azimuthal and principal quantum numbers respectively for an electron that is present in 4d orbital

Options :

1. ✖ 1 and 4

2. ✖ 4 and 1

3. ✔ 2 and 4

4. ✖ 4 and 2

Question Number : 77 Question Id : 1592076292 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following molecule has ionic bonding?

Options :

1. ✖ CH_3Cl

2. ✖ CH_3OH

3. ✖ CO_2

4. ✔ MgO

Question Number : 78 Question Id : 1592076293 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

What is the Oxidation number of carbon in formaldehyde?

Options :

1. ✖ -4

2. ✖ +4

3. ✔ 0

4. ✖ +2

Question Number : 79 Question Id : 1592076294 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The Molarity of a solution containing 9 g of glucose (molar mass180) in 500 g of water is

Options :

1. ✖ 0.5

2. ✔ 0.1

3. ✖ 0.2

4. ✖ 1.0

Question Number : 80 Question Id : 1592076295 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Prussian blue colloid is

Options :

1. ✖ As_2S_3

2. ✖ $Fe(OH)_3$

3. ✔ $KFe[Fe(CN)_6]$

4. ✖ $FeCl_3$

Question Number : 81 Question Id : 1592076296 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following anions is the strongest base?

Options :

1. ✔ ClO^-

2. ✖ ClO_2^-

3. ✖ ClO_3^-

4. ✖ ClO_4^-

Question Number : 82 Question Id : 1592076297 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The pH of 10^{-9} molar solution of HCl is

Options :

1. ✖ 9

2. ✖ -9

3. ✖ Between 7 & 8

4. ✔ Between 6 & 7

Question Number : 83 Question Id : 1592076298 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which one of the following is a Renewable energy source?

Options :

1. ✖ Petroleum

2. ✖ Coal

3. ✖ Natural gas

4. ✔ Wind mills

Question Number : 84 Question Id : 1592076299 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following gas is responsible for depletion of ozone layer in the atmosphere?

Options :

1. ✖ CH_2Cl_2

2. ✔ CF_2Cl_2

3. ✖ CH_2F_2

4. ✖ CO_2

Question Number : 85 Question Id : 1592076300 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The exhausted permutit is regenerated by percolating through it a solution of

Options :

1. ✖ Calcium chloride

2. ✖ Zinc chloride

3. ✔ Sodium chloride

4. ✖ Magnesium chloride

Question Number : 86 Question Id : 1592076301 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

During reverse osmosis:

Options :

1. ✖

Dissolved salts are pushed out through semipermeable membrane

2. ✖ Only dissolved ionic salts are pushed out through the semipermeable membrane

3. ✔ Pure water is pushed out through semipermeable membrane

4. ✖ Both water and dissolved salts are pushed out through the semipermeable membrane

Question Number : 87 Question Id : 1592076302 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is a weak electrolyte?

Options :

1. ✖ HCl

2. ✖ NaOH

3. ✔ CH_3COOH

4. ✖ H_2SO_4

Question Number : 88 Question Id : 1592076303 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

When 2 amperes of current is passed through $CuSO_4$ solution for 10 minutes, the amount of Cu deposited is (Atomic weight of Cu = 63.5 g)

Options :

1. ✖ 3.94 g

2. ✔ 0.394 g

3. ✖ 0.788 g

4. ✖ 7.88 g

Question Number : 89 Question Id : 1592076304 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Composition of Nichrome alloy is

Options :

1. ✖ Ni:68%, Cu:27%, Fe:5%

2. ✔ Ni:78%, Cr:20%, Fe:2%

3. ✖ Ni:40%, Cu:60%

4. ✖ Al:95%, Cu:2%, Ni:1%

Question Number : 90 Question Id : 1592076305 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In the froth flotation method, pine oil

Options :

1. ✖ Increases the surface tension of the solution

2. ✖ Acts as a collector

3. ✖ Does not affect the surface tension of the solution

4. ✔ Decreases the surface tension of the solution

Question Number : 91 Question Id : 1592076306 Question Type : MCQ Option

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

During electro chemical corrosion in acidic environment

Options :

1. ✔ Hydrogen evolution takes place

2. ✖ Oxygen evolution takes place

3. ✖ Oxygen absorption occurs

4. ✖ Hydrogen absorption takes place

Question Number : 92 Question Id : 1592076307 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The process of coating of Iron with Zinc metal is known as

Options :

1. ✔ Galvanizing

2. ✖ Sherardizing

3. ✖ Zincing

4. ✖ Tinning

Question Number : 93 Question Id : 1592076308 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Bakelite is prepared by the condensation polymerization of

Options :

1. ✔ Phenol and formaldehyde

2. ✖ Urea and formaldehyde

3. ✖ Phenol and acetaldehyde

4. ✖ Urea and acetone

Question Number : 94 Question Id : 1592076309 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The trade name of the polymer coated on non-stick utensils is

Options :

1. ✖ Dacron

2. ✖ Orlon

3. ✔ Teflon

4. ✖ Nylon

Question Number : 95 Question Id : 1592076310 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Octane number of a petrol that consists 20:80 mixture of n-heptane and 2,2,4-trimethyl pentane is

Options :

1. ✖ 100

2. ✖ Zero

3. ✔ 80

4. ✖ 20

Question Number : 96 Question Id : 1592076311 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Producer gas is a mixture of

Options :

1. ✖ $CO_2 + H_2$

2. ✔ $CO + N_2$

3. ✖ $CO + CH_4$

4. ✖ $CH_4 + H_2$

Question Number : 97 Question Id : 1592076312 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

For the following cell reaction

$$Fe + \underset{(a=1)}{Ni}^{2+} \longrightarrow \underset{(a=1)}{Fe}^{2+} + Ni$$

The EMF of the cell at 298 K is $(\overset{o}{E}_{Fe^{2+}/Fe} = -0.440\ V; \overset{o}{E}_{Ni^{2+}/Ni} = -0.250\ V)$

Options :

1. ✖ – 0.190 V

2. ✔ + 0.190 V

3. ✖ + 0.690 V

4. ✖ – 0.690 V

Question Number : 98 Question Id : 1592076313 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In Hydrogen-Oxygen fuel cell, the reaction at the cathode is

Options :

1. ✔ $O_2(g) + 4H^+ + 4e^- \rightarrow 2H_2O$

2. ✖ $4H^+ + 4e^- \rightarrow 2H_2(g)$

3. ✖ $2H_2O \rightarrow O_2(g) + 4H^+ + 4e^-$

4. ✖ $2H_2(g) + 4OH^- \rightarrow 4H_2O(\ell) + 4e^-$

Question Number : 99 Question Id : 1592076314 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following statements is true about SMOG?

Options :

1. ✖ SMOG is derived from the fog

2. ✖ SMOG is derived from smoke

3. ✖ SMOG is derived from water vapour

4. ✔ SMOG is derived from both fog and smoke

Question Number : 100 Question Id : 1592076315 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

What do BOD and COD stand for?

Options :

1. ✔ Biological Oxygen Demand and Chemical Oxygen Demand respectively

2. ✖ Chemical Oxygen Demand and Biological Oxygen Demand respectively

3. ✖ Botanical Oxygen Demand and Chemical Oxygen Demand respectively

4. ✖ Basic Oxygen Demand and Chemical Oxygen Demand respectively

Mining Engineering

Section Id :	159207125
Section Number :	4
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	100
Number of Questions to be attempted :	100
Section Marks :	100
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	159207146
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 101 Question Id : 1592076316 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Permitted explosives are used in

Options :

1. ✖ Any opencast mines

2. ✖ Metal mines

3. ✔ Underground coal mines

4. ✖ Canal excavations

Question Number : 102 Question Id : 1592076317 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The property of an explosive which will not allow to change its performance after storage in magazine

Options :

1. ✖ Density

2. ✖ Sensitivity

3. ✖ Water resistance

4. ✔ Stability

Question Number : 103 Question Id : 1592076318 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The prime charge in a detonator is

Options :

1. ✖ PETN

2. ✖ TNT

3. ✔ ASA

4. ✖ AN

Question Number : 104 Question Id : 1592076319 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Most of the Indian coal mines are:

Options :

1. ✔ Degree-I

2. ✖ Degree-II

3. ✖ Degree-III

4. ✖ Degree-IV

Question Number : 105 Question Id : 1592076320 Question Type : MCQ Optio

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

What is the required power voltage for a coal drill?

Options :

1. ✔ 110V

2. ✖ 220V

3. ✖ 330V

4. ✖ 440V

Question Number : 106 Question Id : 1592076321 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In shaft sinking the holes left in permanent lining at the curb level to avoid development of hydrostatic pressure behind the lining due to water _____

Options :

1. ✖ Product holes

2. ✔ Weep holes

3. ✖ Lining holes

4. ✖ Drain holes

Question Number : 107 Question Id : 1592076322 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is a poisonous gas?

Options :

1. ✖ Nitrogen

2. ✖ Oxygen

3. ✖ Carbon dioxide

4. ✔ Carbon monoxide

Question Number : 108 Question Id : 1592076323 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In rotary drag bit drilling the primary cutting action is

Options :

1. ✖ Crushing

2. ✔ Chipping

3. ✖ Spalling

4. ✖ Melting

Question Number : 109 Question Id : 1592076324 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The threshold limit of respirable air borne dust containing less than 5 percent free silica at any work place to which a worker can be exposed during a shift is.

Options :

1. ✖ 3.5 milligram per cubic meter

2. ✔ 3.0 milligram per cubic meter

3. ✖ 2.5 milligram per cubic meter

4.

2.0 milligram per cubic meter

Question Number : 110 Question Id : 1592076325 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A shock tube initiating system, such as Nonel.

Options :

1. Does not need detonators for initiation

2. It cannot be used in under-water conditions

3. It is not affected by static electricity or strong currents

4. It creates a lot of noise

Question Number : 111 Question Id : 1592076326 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Stripping ratio is the indicator of

Options :

1. Ore production

2. ✖ Over burden removal

3. ✔ Quantity of over burden to be removed for unit of ore production

4. ✖ Productivity per year

Question Number : 112 Question Id : 1592076327 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which shape of the shaft is more stable under similar conditions?

Options :

1. ✖ Rectangle

2. ✖ Square

3. ✔ Triangle

4. ✖ Circular

Question Number : 113 Question Id : 1592076328 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : Non

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

Correct Marks : 1 Wrong Marks : 0

Metamorphic rocks are rock that is transformed into new types of rock under the influence of

Options :

1. ✖ Earth's internal activities not only by crumpling or by fusion

2. ✖ Chemically active gases and liquid form of magmatic sources

3. ✖ Earth movements, igneous activity, and metamorphism

4. ✔ The intense pressure or stress, increased temperature, chemically active gases, and liquid form of magmatic sources

Question Number : 114 Question Id : 1592076329 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The Minerals that are present only in small quantities in a rock are

Options :

1. ✖ Essential Minerals

2. ✔ Accessory Minerals

3. ✖ Primary Minerals

4. ✖ Secondary Minerals

Question Number : 115 Question Id : 1592076330 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which one of these faults is uncommon in coal fields?

Options :

1. ✖ Normal fault

2. ✖ Step fault

3. ✔ Reverse fault

4. ✖ Trough fault

Question Number : 116 Question Id : 1592076331 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which class of coal burns in blue flame?

Options :

1. ✔ Anthracite

2. ✖ Bituminous

3. ✖ Sub-bituminous

4. ✖ Lignite

Question Number : 117 Question Id : 1592076332 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which one of these is an example of sedimentary rock?

Options :

1. ✖ Diorite

2. ✔ Dolomite

3. ✖ Syenties

4. ✖ Gabbro

Question Number : 118 Question Id : 1592076333 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Shales are formed from the compaction and consolidation of

Options :

1. ✖ Limestone

2. ✖ Sandstone

3. ✖ Marble

4. ✔ Clay

Question Number : 119 Question Id : 1592076334 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

An absolutely impermeable rock formation through which there is no possibility of storage or movement of water

Options :

1. ✖ Aquifer

2.

✖ Aquiclude

3. ✔ Aquifuge

4. ✖ Aquitard

Question Number : 120 Question Id : 1592076335 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The upper surface of water in a confined aquifer is called

Options :

1. ✖ Zone of saturation

2. ✔ Piezometric surface

3. ✖ Saturated surface

4. ✖ Zone of Aeration

Question Number : 121 Question Id : 1592076336 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : Non

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

Correct Marks : 1 Wrong Marks : 0

Fossils mostly available in the following rocks

Options :

1. ✖ Metamorphic rocks

2. ✔ Sedimentary rocks

3. ✖ Igneous rocks

4. ✖ Plutonic rocks

Question Number : 122 Question Id : 1592076337 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Any break in a rock mass irrespective of its size is termed as

Options :

1. ✖ Joints

2. ✖ Fissures

3. ✔ Fracture

4. ✖ Cracks

Question Number : 123 Question Id : 1592076338 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Considering longwall mining of coal, identify the statement applicable to the advancing method.

Options :

1. ✖ Easy maintenance of grate roads

2. ✖ Superior ventilation

3. ✖ Prior knowledge of geological disturbances

4. ✔ Early production from the longwall face

Question Number : 124 Question Id : 1592076339 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Square pillars in a bord and pillar panel are of size 30 m centre to centre, and the galleries are of width 4.0 m. The tributary area for each pillar in m^2 is

Options :

1. ✔ 224

2. ✖ 256

3. ✖ 676

4. ✖ 884

Question Number : 125 Question Id : 1592076340 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The keps are necessary in one of the following winding systems.

Options :

1. ✖ Koepe winding

2. ✔ Cage winding

3. ✖ Skip winding

4.

Friction winding

Question Number : 126 Question Id : 1592076341 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

What is SSR?

Options :

1. Systematic support rules

2. Systematic staff rules

3. Safe strata rules

4. Safe side roof

Question Number : 127 Question Id : 1592076342 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Why diagonal line of extraction is followed in bord and pillar method?

Options :

1.

To control roof

2. ✖ To control gas

3. ✖ To control ventilation

4. ✖ To control fires

Question Number : 128 Question Id : 1592076343 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

An underground road way driven through stone to connect two or more coal seams is

Options :

1. ✖ Tunnel

2. ✔ Cross measure drift

3. ✖ Cross cut

4. ✖ Staple pit

Question Number : 129 Question Id : 1592076344 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Remotely operated LHDs are used in:

Options :

1. ✔ Blasting gallery method

2. ✖ Bord and pillar method

3. ✖ Longwall mining

4. ✖ Room and pillar mining

Question Number : 130 Question Id : 1592076345 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Subsidence is less in

Options :

1. ✖ Blasting gallery method

2. ✔ Bord and pillar method

3. ✖ Longwall mining

4. ✖ Benching method

Question Number : 131 Question Id : 1592076346 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Ring pattern of drilling is used in:

Options :

1. ✔ Blasting gallery method

2. ✖ Bord and pillar method

3. ✖ Longwall mining

4. ✖ Open cast method

Question Number : 132 Question Id : 1592076347 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Why spacers are used in drillholes of blasting gallery method?

Options :

1. ✖ To control gases

2. ✔ To distribute explosive energy

3. ✖ To avoid misfires

4. ✖ To control strata

Question Number : 133 Question Id : 1592076348 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

'Sumping' is related to

Options :

1. ✖ Blasting gallery method

2. ✖ Bord and pillar method

3. ✔ Longwall mining

4. ✖ Hydraulic method

Question Number : 134 Question Id : 1592076349 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is not an entry to the mine?

Options :

1. ✔ Gallery

2. ✖ Adit

3. ✖ Shaft

4. ✖ Incline

Question Number : 135 Question Id : 1592076350 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Locations of the shaft should be

Options :

1. ✔ Above the HFL

2. ✖ Below the HFL

3. ✖ Same level of HFL

4. ✖ Not related to HFL

Question Number : 136 Question Id : 1592076351 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Sub part of a mine is called as:

Options :

1. ✔ Panel

2. ✖ Gallery

3. ✖ Incline

4. ✖ Area

Question Number : 137 Question Id : 1592076352 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The following are the various parameters of an overburden blasting pattern used in Opencast mine:

Height of the bench (H) = 12 m
Burden (B) = 1 m
Spacing (S) = 1.5 * B
Number of holes blasted (n) = 20
The volume of the overburden material blasted is ____

Options :

1. ✖ $300\ m^3$

2. ✔ $360\ m^3$

3. ✖ $400\ m^3$

4. ✖ $450\ m^3$

Question Number : 138 Question Id : 1592076353 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In the context of surface mine development, the Box Cut is defined as

Options :

1. ✔ The initial cut made to open a mine

2. ✖ The cut to extend the haul road

3. ✖ The final cut to close the mine

4. ✖ Any cut which may looks like an open box

Question Number : 139 Question Id : 1592076354 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Identify the report which deals with periodical environmental measures to carry out opencast mining operations

Options :

1. ✖ EMP (Environmental Management Plan)

2. ✔ EIA (Environmental Impact Assessment)

3. ✖ FR (Feasibility Report)

4. ✖ DPR (Detailed Project Report)

Question Number : 140 Question Id : 1592076355 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : Non

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

Correct Marks : 1 Wrong Marks : 0

Pick up the WRONG statement from the following

Options :

1. ✖ Distance between first row of blast holes and bench crest is called Burden

2. ✔ Distance between two holes in a same row is called Stemming

3. ✖ The extra drilling beyond the height of the bench is called Sub-Grade drilling

4. ✖ Increasing the value of Burden and Spacing results in higher production per hole

Question Number : 141 Question Id : 1592076356 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A compressed air operated Jack hammer drill machine required an external air pressure through a hose pipe of about _____

Options :

1. ✖ 8 kgf/cm^2

2. ✔ 6 kgf/cm^2

3. ✖ $4\ kgf/cm^2$

4. ✖ $2\ kgf/cm^2$

Question Number : 142 Question Id : 1592076357 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Factor of safety of slopes is defined as the ratio of total force available to resist sliding to the __

Options :

1. ✖ Total force tending to resist sliding

2. ✖ Total force tending to opposite direction

3. ✔ Total force tending to induce sliding

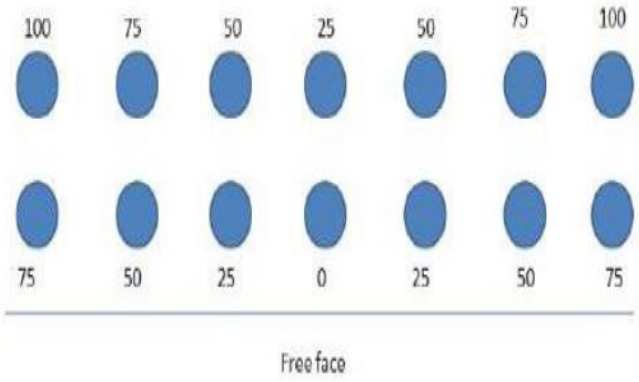
4. ✖ Total force tending to along direction

Question Number : 143 Question Id : 1592076358 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : Non

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

Correct Marks : 1 Wrong Marks : 0

In the figure given below, the blast holes are shown along with their delay time in ms. Identify the drill pattern and the blasting pattern



Options :

1. ✔ Rectangular Pattern, V-Cut

2. ✖ Staggered Pattern, V-Cut

3. ✖ Rectangular Pattern, extended V-Cut

4. ✖ Staggered Pattern, extended V-Cut

Question Number : 144 Question Id : 1592076359 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The correct order of Reclamation process is

Options :

1. ✖ Back filling; surface stabilization; regrading; revegetation and restoration

2. ✔ Back filling; regrading; surface stabilization; revegetation and restoration

3. ✖ Back filling; surface stabilization; dozing; revegetation and restoration

4. ✖ Back filling; regrading; surface stabilization; restoration and revegetation

Question Number : 145 Question Id : 1592076360 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In surface continuous miner, the milling drum width is 1.5m, milling depth is 0.5m with movement speed of 10 m/min. Calculate the quantity of coal in tons per hour. Assume the density of coal is 1.5 t/m^3

Options :

1. ✔ 675

2. ✖ 11.25

3. ✖ 438

4. ✖

690

Question Number : 146 Question Id : 1592076361 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following NOT affecting the proper fragmentation of rock?

Options :

1. ✖ Correct type of Explosive

2. ✖ Correct amount of Charge per hole

3. ✔ Correct type of Exploder

4. ✖ Correct Stemming

Question Number : 147 Question Id : 1592076362 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The theoretical capacity of BWE can be calculated by

Options :

1. ✖ Q = bucket diameter x No. of buckets x bucket capacity

2. ✔ Q = wheel rpm x No. of buckets x bucket capacity

3. ✖ Q = bucket diameter x No. of buckets x width of the bucket

4. ✖ Q = bucket diameter x wheel rpm x width of the bucket

Question Number : 148 Question Id : 1592076363 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

An Open cast mine used 200 Kg of explosive per blasting where spacing and burden are 2 and 2.5 m respectively. The bench height is 7 m. Find the power factor, if there are 25 holes in the blasting. Assume the density of coal as 1.2 t/m^3.

Options :

1. ✖ 5 t/Kg

2. ✔ 5.25 t/Kg

3. ✖ 5.5 t/Kg

4. 6 t/Kg ✖

Question Number : 149 Question Id : 1592076364 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

While designing an open pit slope which one of these is NOT a method of advancing

Options :

1. Strike cut – advancing down dip ✖

2. Strike cut – advancing up dip ✖

3. Dip out – advancing along strike ✖

4. Dip out – advancing along dip ✔

Question Number : 150 Question Id : 1592076365 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Find the superelevation of the haul road that has 100 m radius, width of 10m and maximum speed of the vehicle is 72 km/hr. Assume acceleration due to gravity is 9.8 ms^{-2}

Options :

1. ✖ $10/4.9$

2. ✖ $10/5.9$

3. ✔ $20/4.9$

4. ✖ $20/5.9$

Question Number : 151 Question Id : 1592076366 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Rock mass rating does not make use of

Options :

1. ✖ Compressive strength of rock

2. ✖ Drill core quality

Shear strength of rock

3. ✔

Groundwater condition

4. ✖

Question Number : 152 Question Id : 1592076367 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The angle of draw in a trough subsidence helps in determining the

Options :

Maximum subsidence

1. ✖

Extent of surface subsidence

2. ✔

Plane of fracture

3. ✖

Critical width of the opening

4. ✖

Question Number : 153 Question Id : 1592076368 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Multipoint extensometers are installed to know

Options :

1. ✔ Displacement of rock

2. ✖ Stresses in rock

3. ✖ Strength in rock

4. ✖ Angle of deviation

Question Number : 154 Question Id : 1592076369 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In Mohr's circle of stress, the X axis is

Options :

1. ✖ Single shear stress

2. ✔ Normal stress

3. ✖ Oblique shear stress

4. ✖ Tangential stress

Question Number : 155 Question Id : 1592076370 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The main cause of rock burst is

Options :

1. ✔ Strain energy

2. ✖ Kinematic energy

3. ✖ Static energy

4. ✖ Rock energy

Question Number : 156 Question Id : 1592076371 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The method of measurement of insitu state of stress at a greater depth is

Options :

1. ✖ Flat Jack method

2. ✖

Bore hole deformation gauge

3. ✔ Hydraulic fracture

4. ✖ Remote convergence recorder

Question Number : 157 Question Id : 1592076372 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

What is the L/D ratio required to conduct compressive strength on a rock specimen as per ISRM standards?

Options :

1. ✖ 1.0 to 1.5

2. ✖ 1.5 to 2.0

3. ✖ 2.0 to 2.5

4. ✔ 2.5 to 3.0

Question Number : 158 Question Id : 1592076373 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : Non

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

Correct Marks : 1 Wrong Marks : 0

Which of the following is a non-destructive test?

Options :

1. ✖ Oblique shear test

2. ✖ Abrasion test

3. ✔ Rebound hardness test

4. ✖ Brazilian test

Question Number : 159 Question Id : 1592076374 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following test is used to find approximate compressive strength of rock?

Options :

1. ✖ Slake durability

2. ✖ Shear strength

3. ✔ Protodyakanov's strength index

4. ✖ Angle of internal friction

Question Number : 160 Question Id : 1592076375 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following test is NOT available in ISRM suggested methods?

Options :

1. ✖ Slake durability index

2. ✖ Compressive strength

3. ✔ Protodyakanov's strength index

4. ✖ Impact strength index

Question Number : 161 Question Id : 1592076376 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Q classification is proposed by

Options :

1. ✖ Binawski

2. ✖ Laufer

3. ✔ Barton

4. ✖ Franklin

Question Number : 162 Question Id : 1592076377 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is a time depended property?

Options :

1. ✖ Compressive strength

2. ✖ Porosity

3. ✖ Density

4. ✔ Creep

Question Number : 163 Question Id : 1592076378 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

From the tri- axial test, which of the following can be estimated?

Options :

1. ✖ Angle repose

2. ✖ Deflection angle

3. ✔ Angle of internal friction

4. ✖ Angle of deviation

Question Number : 164 Question Id : 1592076379 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is NOT a yielding support?

Options :

1. ✖ Friction prop

2. ✔ Wooden prop

3. ✖ Hydraulic prop

4. ✖ Steel arches

Question Number : 165 Question Id : 1592076380 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The construction of the wires in the strands and the strands in the rope are laid in the opposite direction are called _____

Options :

1. ✖ Opposite lay

2. ✔ Regular lay

3. ✖ Circular lay

4. ✖ Longs lay

Question Number : 166 Question Id : 1592076381 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In the bend-back type rope attachments used in the haulage system, the length of the rope under the clips is nearly about _____ times of rope dia.

Options :

1. ✖ 20

2. ✖ 25

3. ✔ 30

4. ✖ 35

Question Number : 167 Question Id : 1592076382 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A 100m wire rope, round stranded with fibre core, has a diameter of 2.54 cm. If the steel has a tensile strength of 160 kg/mm^2, find out the mass of the rope and the breaking strength in SI units (given K=0.36, S=52).

Options :

1. ✖ 370 kN

2. ✔ 335 kN

3. ✖ 300 kN

4. ✖ 265 kN

Question Number : 168 Question Id : 1592076383 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Temperature of white metal while pouring into the conical hole of the capel while preparation of Coned-Socket type capel with the wire ropes.

Options :

1. ✔ Not exceeding 365° C

2. ✖ Not exceeding 345° C

3. ✖ Not exceeding 325° C

4. ✖ Not exceeding 300° C

Question Number : 169 Question Id : 1592076384 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The maximum angle of inclination for conveying coal on piled P.V.C belting is _____

Options :

1. ✖ 13°

2. ✖ 14°

3. ✖ 15°

4. ✔ 16°

Question Number : 170 Question Id : 1592076385 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The belt travels on idlers placed at intervals of _____and placing on either side at an angle of _____to the horizontal.

Options :

1. ✖ 1.2 m to 1.5 m and 20° to 30°

2. ✖ 1.5 m to 2 m and 25° to 30°

3. ✔ 1.5 m to 2 m and 20° to 30°

4. ✖ 1.2 m to 1.5 m and 25° to 30°

Question Number : 171 Question Id : 1592076386 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The wire rope does not subject to the following test carried out according to the standard prescribed by I.S specifications.

Options :

1. ✖ Tensile test

2. ✔ Corrosion test

3. ✖ Bending test

4. ✖ Wrapping test

Question Number : 172 Question Id : 1592076387 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The maximum permitted percentage of CO in the exhaust gases before entering into the mine atmosphere is _____, with a diesel locomotive.

Options :

1. ✔ 0.20%

2. ✖ 0.25%

3. ✖ 0.30%

4. ✖ 0.35%

Question Number : 173 Question Id : 1592076388 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Darcy' s formula for friction of water flow in pipes i.e., Hf = _____

Options :

1. ✖ $\frac{2flv^2}{2gd}$

2. ✔ $\frac{4flv^2}{2gd}$

3. ✖ $\frac{4flv^2}{2d}$

4. ✖

$$\frac{2flv^2}{2g}$$

Question Number : 174 Question Id : 1592076389 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The rate of penetration of a bit in coal by using coal drill machine is _____

Options :

1. ✖ 1.0 m/min

2. ✖ 1.2 m/min

3. ✖ 1.4 m/min

4. ✔ 1.5 m/min

Question Number : 175 Question Id : 1592076390 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The seam thickness suitable for coal ploughs is _____

Options :

1. ✔ 0.6 to 2.00 m

2. ✖ 0.6 to 1.80 m

3. ✖ 0.6 to 1.50 m

4. ✖ 0.6 to 1.20 m

Question Number : 176 Question Id : 1592076391 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The fleet angle in the winding system should not exceed _____when the cage is at pit bottom or pit top.

Options :

1. ✖ 1.2°

2. ✖ 1.3°

3. ✖ 1.4°

4.

✔ 1.5°

Question Number : 177 Question Id : 1592076392 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The safety catches consist of short levers mounted in the headgear at an interval of _

Options :

1. ✖ 0.2 to 1.00 m

2. ✖ 0.3 to 1.20 m

3. ✔ 0.3 to 1.00 m

4. ✖ 0.2 to 1.20 m

Question Number : 178 Question Id : 1592076393 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Re-capping of winding rope in case of drum winding for every _____months with a maximum life of the rope as per the regulations is _____.

Options :

1. ✖ 6 and 3.0 years

2. ✔ 6 and 3.5 years

3. ✖ 12 and 3.0 years

4. ✖ 12 and 3.5 years

Question Number : 179 Question Id : 1592076394 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The error due to bad ranging is

Options :

1. ✖ Cumulative (+ve)

2. ✖ Cumulative (-ve)

3. ✖ Cumulative (+ve and –ve)

4. ✔ Compensating

Question Number : 180 Question Id : 1592076395 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The survey in which curvature of the earth is taken into consideration is

Options :

1. ✔ Geodetic survey

2. ✖ Plane survey

3. ✖ Preliminary survey

4. ✖ Hydrographic survey

Question Number : 181 Question Id : 1592076396 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Cross-staff is used for

Options :

1. ✔ Setting out right angles

2. ✖

Measuring horizontal angles

3. ✖ Measuring bearing of the line

4. ✖ Measuring magnetic deflection

Question Number : 182 Question Id : 1592076397 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A tape length l and weight w is suspended at its end with a pull of p newtons. The sag correction is

Options :

1. ✖ $l^3w^2/24p^2$

2. ✔ $lw^2/24p^2$

3. ✖ $l^2w^2/34p^2$

4. ✖ $l^2w^3/24p^2$

Question Number : 183 Question Id : 1592076398 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In a level survey, the station over which two readings are taken is known as _____

Options :

1. ✖ Bench Mark

2. ✖ Intermediate Station

3. ✔ Change point

4. ✖ Reduced point

Question Number : 184 Question Id : 1592076399 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The temporary adjustment of a prismatic compass involves

Options :

1. ✖ Centering only

2. ✖

Leveling only

3. ✔ Centering and leveling only

4. ✖ Centering leveling and focusing of the prism

Question Number : 185 Question Id : 1592076400 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The whole circle bearing of a line is 300^0. Its quadrantal or reduced bearing is

Options :

1. ✖ $W30^0N$

2. ✔ $N60^0W$

3. ✖ $N30^0W$

4. ✖ $W60^0N$

Question Number : 186 Question Id : 1592076401 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None

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

Correct Marks : 1 Wrong Marks : 0

The operation of revolving the telescope in a horizontal plane about its vertical axis is called

Options :

1. ✔ Swinging

2. ✖ Transiting

3. ✖ Face right

4. ✖ Face left

Question Number : 187 Question Id : 1592076402 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The multiplying constant of a tachometer is

Options :

1. ✔ f/i

2. ✖ (f/d)+i

3. ✖

(f/i)+d

f+d

4. ✖

Question Number : 188 Question Id : 1592076403 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A total station is the combination of

Options :

1. ✖ EDM and Vernier Theodolite

2. ✖ Electronic Theodolite and Digital level

3. ✔ EDM and Electronic Theodolite

4. ✖ EDM and Auto level

Question Number : 189 Question Id : 1592076404 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Purpose of correlation survey is to

Options :

1. ✖ Find the surface features

2. ✔ Correlate the surface features with underground features

3. ✖ Obtain more accurate results

4. ✖ Prepare sections

Question Number : 190 Question Id : 1592076405 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Given scale on a map is 1 cm = 20 m, then corresponding R.F (Representative Factor) is

Options :

1. ✔ 1: 2000

2. ✖ 1: 3000

3. ✖ 1: 4000

4. ✖ 1: 5000

Question Number : 191 Question Id : 1592076406 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

ISO 14000 standards are for

Options :

1. ✖ Quality Management System

2. ✔ Environmental Management System

3. ✖ Administration

4. ✖ Supply chain

Question Number : 192 Question Id : 1592076407 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Total slack is equal to _____

Options :

1. ✖

Latest completion time + Earliest completion time

2. ✖ Latest starting time + Earliest starting time

3. ✔ Latest completion time - Earliest completion time

4. ✖ Intermediate slack + Free slack

Question Number : 193 Question Id : 1592076408 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The standard that will help organizations develop the capability to create and retain satisfied customers, which can be applied to all organizations regardless of type, size and product or service provided.

Options :

1. ✖ WHO standards

2. ✔ ISO standards

3. ✖ BIS standards

4. ✖ UNO standards

Question Number : 194 Question Id : 1592076409 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

An activity of a project has an expected time estimate of 6 hrs, optimistic and pessimistic time estimates are 5 and 7 hrs respectively, find the most likely time estimate

Options :

1. ✖ 5 hrs

2. ✖ 5 hrs 30 mins

3. ✔ 6 hrs

4. ✖ 6 hrs 30 mins

Question Number : 195 Question Id : 1592076410 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of these Quality improvement methodology adopts structured methodology that involves Define-Measure-Analyze-Improve-Control-Technology Transfer (DMAICT).

Options :

1. ✔ Six sigma

2. ✖ Plan-Do-Check-Act

3. ✖ Quality Circles

4. ✖ Juran's Trilogy

Question Number : 196 Question Id : 1592076411 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Key success factors required for Total Quality Management do not include.

Options :

1. ✖ Strong leadership

2. ✖ Long term perspective

3. ✖ Communication

4. ✔ Product-centered system

Question Number : 197 Question Id : 1592076412 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In Risk management, which risk measure is used for regulatory reporting

Options :

1. ✖ Coherent risk

2. ✔ Value at risk

3. ✖ Conditional value-at-risk

4. ✖ Conditional risk

Question Number : 198 Question Id : 1592076413 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The industrial Disputes Act, 1947 came into force on

Options :

1. ✖ 1st Jan 1947

2. ✔ 1st Apr 1947

3. ✖ 26th Jan 1950

4. ✖ 15th Aug 1947

Question Number : 199 Question Id : 1592076414 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A person returns to employment on the surface or in opencast working or to be employed belowground in a mine should undergo Refresher training if he/she is absent for work for more than

Options :

1. ✖ 6 months

2. ✖ 9 months

3. ✔ 12 months

4. ✖ 18 months

Question Number : 200 Question Id : 1592076415 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

What is the correct abbreviation for PERT?

Options :

1. Path Evaluation Review Technique ✖

2. Program Evaluation Review Technique ✔

3. Project Evaluation Review Technique ✖

4. Part Evaluation Review Technique ✖