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 06th May 2024 Shift1
Subject Name :	Mining Engineering
Creation Date :	2024-05-06 19:15:16
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 :	76144613
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 :	76144647
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 : 76144661

Question Shuffling Allowed : Yes

Is Section Default? : null

Question Number : 1 Question Id : 7614462411 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $A=\begin{pmatrix} k & 1 \\ 1 & k \end{pmatrix}$ and $\left|A^3\right|=27$,then $k=$

Options :

7614469601. ✖ ± 1

7614469602. ✔ ± 2

7614469603. ✖ ± 4

7614469604. ✖ ± 5

Question Number : 2 Question Id : 7614462412 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $A=\begin{pmatrix} 1 & -1 \\ 2 & 1 \end{pmatrix}$ satisfies $aA^2+bA+cI=0$,then $b+2c=$

Options :

7614469605. ✔ 4

7614469606. ✖ 2

7614469607. ✖ -4

7614469608. ✖ 3

Question Number : 3 Question Id : 7614462413 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 (x, y, z) be the solution of the system of equations $x+3y+z=3$, $x+4y+2z=3, -x-2y+3z=-6$ .Then $x^2+y^2+z^2=$

Options :

7614469609. ✖ 12

7614469610. ✖ 9

7614469611. ✖ 6

7614469612. ✔ 3

Question Number : 4 Question Id : 7614462414 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $A=\begin{pmatrix}2 & x+9\\ 1 & 2x\end{pmatrix}$ is invertible,then $x\neq$

Options :

7614469613. ✖ 4

7614469614. ✖ 1

7614469615. ✔ 3

7614469616. ✖ 5

Question Number : 5 Question Id : 7614462415 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 x satisfying $3^{\log_5(x-5)}=\log_5(125)$ is

Options :

7614469617. ✔ 10

7614469618. ✖ 5

7614469619. ✖ 9

7614469620. ✖ 3

Question Number : 6 Question Id : 7614462416 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $\frac{4x^2+1}{x^3-1}=\frac{A}{x-1}+\frac{Bx+C}{x^2+x+1}$, then $A-B+C=$

Options :

7614469621. ✖ -3

7614469622. ✔ 0

7614469623. ✖ 2

7614469624. ✖ 1

Question Number : 7 Question Id : 7614462417 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 diameter of the circle $(x-1)^2+(y+3)^2=3$ is

Options :

7614469625. ✖ $\sqrt{3}$

7614469626. ✖ $4\sqrt{3}$

7614469627. ✔ $2\sqrt{3}$

7614469628. ✖ 3

Question Number : 8 Question Id : 7614462418 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 circle $x^2 + y^2 - 3x - 2y + c = 0$ passes through origin, then $c =$

Options :

7614469629. ✖ -1

7614469630. ✖ 1

7614469631. ✔ 0

7614469632. ✖ ∞

Question Number : 9 Question Id : 7614462419 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 latus rectum of parabola $x^2 = 4y$ is

Options :

7614469633. ✔ 4

7614469634. ✖ 8

7614469635. ✖ 12

7614469636. ✖ 2

Question Number : 10 Question Id : 7614462420 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 centre of the circle $45x^2+45y^2-60x+36y+19=0$ is

Options :

7614469637. ✖ $(0,0)$

7614469638. ✖ $(60,36)$

7614469639. ✖ $(-60,36)$

7614469640. ✔ $(\frac{2}{3},-\frac{2}{5})$

Question Number : 11 Question Id : 7614462421 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Homogeneous second degree equation $a x^2 + 2hxy + by^2 = 0$ represents two real and distinct lines through origin if

Options :

7614469641. ✔ $h^2 > ab$

7614469642. ✖ $h^2 = ab$

7614469643. ✖ $h^2 < ab$

7614469644. ✖ $h^2 = a + b$

Question Number : 12 Question Id : 7614462422 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 the circle with extremities (1,3) and (5, 7) of the diameter is

Options :

7614469645. ✖ $x^2 + y^2 + 6x + 10y + 26 = 0$

7614469646. ✔ $x^2 + y^2 - 6x - 10y + 26 = 0$

7614469647. ✖ $x^2 + y^2 - 6x + 10y + 26 = 0$

7614469648. ✖ $x^2 + y^2 - 6x - 10y - 26 = 0$

Question Number : 13 Question Id : 7614462423 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 line passing through the points (a,6a) and (5,6) is perpendicular to the line $3x+4y+5 = 0$, then $7a =$

Options :

7614469649. ✖ -5

7614469650. ✖ -3

7614469651. ✔ -1

7614469652. ✖ -2

Question Number : 14 Question Id : 7614462424 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 (0, k), (1,3) and (82,30) are collinear ,then k =

Options :

7614469653. ✔ $\frac{8}{3}$

7614469654. ✖ $\frac{9}{4}$

7614469655. ✖ $\frac{10}{7}$

7614469656. ✖ $\frac{11}{6}$

Question Number : 15 Question Id : 7614462425 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 two parallel sides of a square are $2x+y+7 = 0, 2x+y+5=0$, then the area of that square is (in square units is)

Options :

7614469657. ✖ $\frac{3}{5}$

7614469658. ✔ $\frac{4}{5}$

7614469659. ✖ $\frac{6}{5}$

7614469660. ✖ $\frac{7}{5}$

Question Number : 16 Question Id : 7614462426 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 point at two circles $x^2+y^2-4x-2y-4=0, x^2+y^2-12x-8y-12=0$ touches is

Options :

7614469661. ✔ $\left(\frac{-2}{5},\frac{-4}{5}\right)$

7614469662. ✖ $\left(\frac{2}{5},\frac{4}{5}\right)$

7614469663. ✖ $\left(\frac{2}{5},\frac{-4}{5}\right)$

7614469664. ✖ $\left(\frac{-2}{5},\frac{4}{5}\right)$

Question Number : 17 Question Id : 7614462427 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $x+y=k$ is a normal to the parabola $y^2=12x$,then k =

Options :

7614469665. ✖ 5

7614469666. ✔ 9

7614469667. ✖ 7

7614469668. ✖ 3

Question Number : 18 Question Id : 7614462428 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 set of all points where the function $f(x) = x|x|$ is differentiable is

Options :

7614469669. ✖ $(0, \infty)$

7614469670. ✔ $(-\infty, \infty)$

7614469671. ✖ $(-\infty, 0) \cup (0, \infty)$

7614469672. ✖ $(-\infty, 0)$

Question Number : 19 Question Id : 7614462429 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$$\lim_{x \to 1} \frac{1 + x + x^2 + \ldots + x^{n-1} - n}{x - 1} =$$

Options :

7614469673. ✖ $n^2 + n$

7614469674. ✖ $\frac{n^2+n}{2}$

7614469675. ✔ $\frac{n^2-n}{2}$

7614469676. ✖ n^2-n

Question Number : 20 Question Id : 7614462430 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $x=2\cos t, y=2\sin t$,then $\frac{d^2y}{dx^2}$ at $t=\frac{\pi}{4}$ is

Options :

7614469677. ✖ $\frac{1}{\sqrt{2}}$

7614469678. ✔ $-\sqrt{2}$

7614469679. ✖ $\sqrt{3}$

7614469680. ✖ $-\frac{1}{\sqrt{3}}$

Question Number : 21 Question Id : 7614462431 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 the tangent to the curve $y = x^3 - 3x + 2$ at the point $(2, 4)$ is

Options :

7614469681. ✔ $9x - y - 14 = 0$

7614469682. ✖ $9x + y - 14 = 0$

7614469683. ✖ $9x - y + 14 = 0$

7614469684. ✖ $9x + y = 0$

Question Number : 22 Question Id : 7614462432 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $y = a\log x + bx^2 + x$ has its extreme values at $x = -1$ and $x = 2$, then the values of a and b are respectively are

Options :

7614469685. ✖ $-2, 2$

7614469686. ✖ $-4, 4$

7614469687. ✖

$-\frac{1}{3}, 4$

7614469688. ✔ $-\frac{1}{2}, 2$

Question Number : 23 Question Id : 7614462433 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 curves $y^2 = 2x$ and $2xy = k$ cut at right angle,then $k^2 =$

Options :

7614469689. ✖ 4

7614469690. ✔ 8

7614469691. ✖ 16

7614469692. ✖ 9

Question Number : 24 Question Id : 7614462434 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $x^y y^x = 1$,then $\frac{dy}{dx} =$

Options :

7614469693. ✖ $-\frac{y}{x}\left(\frac{x+y\log x}{y+x\log y}\right)$

7614469694. ✖ $\frac{y}{x}\left(\frac{x-\log x}{y+\log y}\right)$

7614469695. ✖ $\frac{y}{x}\left(\frac{y-x\log y}{x+y\log x}\right)$

7614469696. ✔ $-\frac{y}{x}\left(\frac{y+x\log y}{x+y\log x}\right)$

Question Number : 25 Question Id : 7614462435 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $u=\tan^{-1}\left(\frac{x^3+y^3}{x-y}\right), x\neq y$ and if $x\frac{\partial u}{\partial x}+y\frac{\partial u}{\partial y}-\sin ku=0$,then $k=$

Options :

7614469697. ✖ 3

7614469698. ✖ 4

7614469699. ✔ 2

7614469700. ✖ 5

Question Number : 26 Question Id : 7614462436 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 slope of the tangent to the curve xy=1 at (1,1) is

Options :

7614469701. ✖ -2

7614469702. ✔ -1

7614469703. ✖ 1

7614469704. ✖ 2

Question Number : 27 Question Id : 7614462437 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 function $f(x) = xe^{-x}$ $(x \in R)$ attains a maximum value at $x =$

Options :

7614469705. ✖ 2

7614469706. ✖ 1/e

7614469707. ✔ 1

7614469708. ✖ 3

Question Number : 28 Question Id : 7614462438 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 integral value of $\int \frac{Cos2x}{sin^2x\,Cos^2x}dx =$

Options :

7614469709. ✖ $Cosec^2x - Sec^2x + c$

7614469710. ✖ $Cotx + Tanx + c$

7614469711. ✔ $-Cotx - tanx + c$

7614469712. ✖ $Cosecx - Secx + c$

Question Number : 29 Question Id : 7614462439 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$\int e^{xCosecx}\,Cosecx(1 - x\,Cotx)dx =$

Options :

7614469713. ✖ $e^{xCotx} + c$

7614469714. ✔ $e^{xCosecx} + c$

7614469715. ✖ $e^{-xCotx} + c$

7614469716. ✖ $e^{-xCos\ ecx} + c$

Question Number : 30 Question Id : 7614462440 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 integral value of $\int_0^{\pi} x\ Sinx\ Cos^4x\ dx$ is

Options :

7614469717. ✖ $\frac{\pi}{10}$

7614469718. ✔ $\frac{\pi}{5}$

7614469719. ✖ $-\frac{\pi}{5}$

7614469720. ✖ $-\frac{\pi}{10}$

Question Number : 31 Question Id : 7614462441 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 area enclosed between the curves $y^2 = x$ and $y = |x|$ is

Options :

7614469721. ✖ $1/3$

7614469722. ✖ 1

7614469723. ✖ $2/3$

7614469724. ✔ $1/6$

Question Number : 32 Question Id : 7614462442 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 of the family of curves $xy = c_1e^x + c_2e^{-x}$ is

Options :

7614469725. ✖ $\frac{d^2y}{dx^2} - 2\frac{dy}{dx} - y = 0$

7614469726. ✔ $x\frac{d^2y}{dx^2} + 2\frac{dy}{dx} - xy = 0$

7614469727. ✖ $x\frac{d^2y}{dx^2} - 2\frac{dy}{dx} - y = 0$

7614469728. ✖ $x^2\frac{d^2y}{dx^2}+2\frac{dy}{dx}-y=0$

Question Number : 33 Question Id : 7614462443 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 the differential equation $\frac{dy}{dx}-x\tan(y-x)=1$ is

Options :

7614469729. ✔ $\sin(y-x)=ce^{\frac{x^2}{2}}$

7614469730. ✖ $\cos(y-x)=ce^{\frac{-x^2}{2}}$

7614469731. ✖ $\sin(y+x)=ce^{\frac{-x^2}{2}}$

7614469732. ✖ $\tan(y-x)=ce^{\frac{x^2}{2}}$

Question Number : 34 Question Id : 7614462444 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 the differential equation $xy\frac{dy}{dx}=\frac{1+y^2}{1+x^2}$ is

Options :

7614469733. ✖ $(1+x)(1+y)=cx^2y^2$

7614469734. ✔ $(1+x^2)(1+y^2)=cx^2$

7614469735. ✖ $(1+x^2)(1+y^2)=cy$

7614469736. ✖ $(1+x^2)(1+y^2)=cxy$

Question Number : 35 Question Id : 7614462445 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 the differential equation $\frac{dy}{dx}-\frac{2}{x}y=2x^3+x$ is

Options :

7614469737. ✔ $y=x^4+x^2\log x+cx^2$

7614469738. ✖ $y=x^3+x^2\log x+cx^2$

7614469739. ✖ $y=x^3+x\log x+cx^2$

7614469740. ✖ $y=x^2+x\log x+cx^3$

Question Number : 36 Question Id : 7614462446 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes 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 the differential equation $\sec^2 y\frac{dy}{dx}+x\tan y=x^3$ is

Options :

7614469741. ✖ $\sin y=x^2+2+ce^{\frac{-x^2}{2}}$

7614469742. ✖ $\cos y=2x^2-1+ce^{\frac{-x^2}{2}}$

7614469743. ✖ $\cot y=x^2-2+ce^{\frac{-x^2}{2}}$

7614469744. ✔ $\tan y=x^2-2+ce^{\frac{-x^2}{2}}$

Question Number : 37 Question Id : 7614462447 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 particular integral of the differential equation $\frac{d^2y}{dx^2}+16y=e^{-3x}+\cos 4x$ is

Options :

7614469745. ✖ $\frac{1}{7}e^{-3x}+\frac{x}{8}\cos 4x$

7614469746. ✖ $\frac{1}{23}e^{-3x}+\frac{x}{8}\cos 4x$

7614469747. ✔ $\frac{1}{25}e^{-3x}+\frac{x}{8}\sin 4x$

7614469748. ✖ $\frac{1}{36}e^{-3x}+\frac{x}{9}\sin 4x$

Question Number : 38 Question Id : 7614462448 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 particular integral of the differential equation $\frac{d^2y}{dx^2}+\frac{dy}{dx}+y=x^2$ is

Options :

7614469749. ✖ x^2+4x

7614469750. ✖ $2x^2-x$

7614469751. ✖ x^2-8x

7614469752. ✔ x^2-2x

Question Number : 39 Question Id : 7614462449 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $\frac{d^2y}{dx^2}-2\frac{dy}{dx}-15y=0$ subject to the conditions $y'(0)=0, y''(0)=2$ is

Options :

7614469753. ✖ $y=\frac{1}{20}e^{3x}+\frac{1}{12}e^{5x}$

7614469754. ✔ $y=\frac{1}{20}e^{5x}+\frac{1}{12}e^{-3x}$

7614469755. ✖ $y=\frac{1}{12}e^{5x}+\frac{1}{20}e^{-3x}$

7614469756. ✖ $y=\frac{1}{20}e^{-5x}+\frac{1}{12}e^{-3x}$

Question Number : 40 Question Id : 7614462450 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$L\left\{\int_0^t e^{-u}\sin u\,du\right\}=$

Options :

7614469757. ✖ $\frac{1}{s^2+2s+2}$

7614469758. ✖

$$\frac{s}{s^2+2s+2}$$

7614469759. ✔ $\frac{1}{s\left(s^2+2s+2\right)}$

7614469760. ✖ $\frac{1}{s\left(s^2+2\right)}$

Question Number : 41 Question Id : 7614462451 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $L\{f(t)\}=\log\left(\frac{s-1}{s}\right)$,then $f(1)=$

Options :

7614469761. ✔ $1-e$

7614469762. ✖ $e-1$

7614469763. ✖ e

7614469764. ✖ $e+1$

Question Number : 42 Question Id : 7614462452 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

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

Correct Marks : 1 Wrong Marks : 0

$$\int_0^{\infty} \frac{\sin 2t}{t} dt =$$

Options :

7614469765. ✖ π

7614469766. ✖ 0

7614469767. ✖ 2π

7614469768. ✔ $\frac{\pi}{2}$

Question Number : 43 Question Id : 7614462453 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$$\text{If } L\{t\sinh kt\} = \frac{4s}{\left(s^2-4\right)^2}, \text{then } k =$$

Options :

7614469769. ✖ 1

7614469770. ✖ 4

7614469771. ✔ 2

7614469772.

✖ $\frac{1}{2}$

Question Number : 44 Question Id : 7614462454 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $L^{-1}\left\{\frac{e^{-s}}{s^2+4s+5}\right\}=f(t)$. If $t>1$,then $f(t)=$

Options :

7614469773. ✖ $e^{-2t}\sin t$

7614469774. ✔ $e^{-2(t-1)}\sin(t-1)$

7614469775. ✖ $e^{-2(t+1)}\sin(t+1)$

7614469776. ✖ $e^{2t}\sin t$

Question Number : 45 Question Id : 7614462455 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $L\{f(t)\}=\frac{2s-1}{(s+1)(s-2)}$, then $L\{f(4t)\}=$

Options :

7614469777. ✖ $\frac{2(s+2)}{(s-4)(s+8)}$

7614469778. ✖ $\frac{2(s-1)}{(4s+1)(4s-2)}$

7614469779. ✖ $\frac{s-2}{(s-4)(s+8)}$

7614469780. ✔ $\frac{2(s-2)}{(s+4)(s-8)}$

Question Number : 46 Question Id : 7614462456 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $Y(s)$ is the Laplace transform of the solution $y(t)$ of $y''+y=\sin 3t$, $y(0)=0, y'(0)=0$, then $Y(0)=$

Options :

7614469781. ✖ 0

7614469782. ✖ 3

7614469783. ✔ $\frac{1}{3}$

7614469784. ✖ $\frac{1}{9}$

Question Number : 47 Question Id : 7614462457 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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_n in the series expansion of $f(x) = |x|$ in $(-\pi, \pi)$ when n is odd is

Options :

7614469785. ✖ $\frac{4}{\pi n^2}$

7614469786. ✔ $\frac{-4}{\pi n^2}$

7614469787. ✖ $\frac{2}{\pi n^2}$

7614469788. ✖ 0

Question Number : 48 Question Id : 7614462458 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 b_0 in the series expansion of $f(x) = |x\ Sinx|$ in $(-\pi, \pi)$ is

Options :

7614469789. ✔ 0

7614469790. ✖ -2

7614469791. ✖ 2

7614469792. ✖ -1

Question Number : 49 Question Id : 7614462459 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $f(x) = Sinx$ is expressed as Fourier Cosine series in the interval $(0, \pi)$, then the value of a_0 is

Options :

7614469793. ✖ $\frac{2}{\pi}$

7614469794. ✖ $\frac{1}{\pi}$

7614469795. ✔ $\frac{4}{\pi}$

7614469796. ✖ $\frac{-2}{\pi}$

Question Number : 50 Question Id : 7614462460 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$\int_0^{\pi} sin6x\ sin4x\ dx =$

Options :

7614469797. ✖ $\frac{\pi}{2}$

7614469798. ✖ π

7614469799. ✖ 1

7614469800. ✔ 0

Physics

Section Id :	76144648
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 : 76144662

Question Shuffling Allowed : Yes

Is Section Default? : null

Question Number : 51 Question Id : 7614462461 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 equation is dimensionally incorrect for the expression representing displacement 'y' and amplitude 'A' of a particle executing Simple Harmonic Motion with time period 'T'?

Options :

7614469801. ✖ $y = \frac{A}{\sqrt{2}}(\text{Sin}\omega t + \text{Cos}\omega t)$

7614469802. ✖ $y = A\ \text{Sin}\omega t$

7614469803. ✔ $y = \frac{A}{T}\ \text{Sin}(\frac{t}{A})$

7614469804. ✖ $y = A\ \text{Sin}(\frac{4\pi t}{T})$

Question Number : 52 Question Id : 7614462462 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 resultant of two equal forces acting at right angles to each other is 1224 N. Then the magnitude of each force in Newtons.

Options :

7614469805. ✖ 612, 612

7614469806. ✖ 1224, 1224

7614469807. ✔ 865, 865

7614469808. ✖ 432, 432

Question Number : 53 Question Id : 7614462463 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 magnitude of three vectors $\vec{A}, \vec{B}$ & $\vec{C}$ are in order 12,5,13 units and $\vec{A} + \vec{B} = \vec{C}$, then what will be the angle between the vectors $\vec{A}$ & $\vec{B}$

Options :

7614469809. ✔ 90^0

7614469810. ✖ 60^0

7614469811. ✖ 30^0

7614469812. ✖ 45^0

Question Number : 54 Question Id : 7614462464 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 boy pulls a body of mass 50 kg resting on a flat horizontal surface. Calculate the frictional force if the coefficient of friction is 0.2

Options :

7614469813. ✔ $98.1\ kg.m.s^{-2}$

7614469814. ✖ 15 kg

7614469815. ✖ $98.1 \times 10^3\ g.cm.s^{-2}$

7614469816. ✖ 1500 g

Question Number : 55 Question Id : 7614462465 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 projectile is thrown with a velocity u at an angle of θ with the horizontal, then the velocity at maximum height during the projectile motion will be:

Options :

7614469817. ✖ $2u \sin\theta$

7614469818. ✖ $u \sin\theta$

7614469819. ✖ $2u \cos\theta$

7614469820. ✔ u cosθ

Question Number : 56 Question Id : 7614462466 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 child of mass 5 kg is going round a merry-go-round that makes 1 rotation in 3.14 seconds. If the radius of the merry-go-round is 2 m then the centrifugal force on the child will be

Options :

7614469821. ✖ 10 Newton

7614469822. ✖ 20 Newton

7614469823. ✖ 30 Newton

7614469824. ✔ 40 Newton

Question Number : 57 Question Id : 7614462467 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 metal plate of area 100 cm^2 is placed on the surface of a liquid and a force of $1\mu N$ is required to move the plate so as to produce a velocity change 1 cms^{-1} between two successive layers separated by 1 cm. The coefficient of viscosity of the liquid is

Options :

7614469825. ✔ $10^{-4}\ Pa\ s$

7614469826. ✖ $10^{-3}\ Pa\ s$

7614469827. ✖ $10^{-1}\ Pa\ s$

7614469828. ✖ $10\ Pa\ s$

Question Number : 58 Question Id : 7614462468 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Water rises to a height 'h' in a capillary tube of radius 'r' when immersed in water. The mass of the water in the capillary tube is 'm'. The mass of water that will rise in another capillary tube of radius $\frac{r}{2}$ when immersed in water is

Options :

7614469829. ✖ m

7614469830. ✖ 2m

7614469831. ✔ $\frac{m}{2}$

7614469832. ✖ 4m

Question Number : 59 Question Id : 7614462469 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 continuity equation for compressible fluid is (the quantities carry their usual meaning)

Options :

7614469833. ✖ $\rho_2 A_1 v_1 = \rho_1 A_2 v_2$

7614469834. ✖ $A_1 v_1 = A_2 v_2$

7614469835. ✖ $\rho_1 v_1 = \rho_2 v_2$

7614469836. ✔ $\rho_1 A_1 v_1 = \rho_2 A_2 v_2$

Question Number : 60 Question Id : 7614462470 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 block of mass 'm' is moving on frictionless horizontal surface with velocity 5m/sec, compresses an ideal spring by 2m and comes to rest. The ratio of mass 'm' of the block to spring constant 'k' is.

Options :

7614469837. ✖ 25: 4

7614469838. ✔ 4 : 25

7614469839. ✖ 1: 25

7614469840. ✖ 4 : 1

Question Number : 61 Question Id : 7614462471 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Match the following:

a) Adiabatic Process	i) no volume change takes place.
b) Isochoric Process	ii) no pressure change takes place.
c) Isobaric Process	iii) no temperature change takes place.
d) Isothermal Process	iv) no heat transfer takes place.

Options :

7614469841. ✖ a-iv, b-iii, c-ii, d-i

7614469842. ✖ a-i, b-iv, c-ii, d-iii

7614469843. ✔ a-iv, b-i, c-ii, d-iii

7614469844. ✖ a-i, b-ii, c-iii, d-iv

Question Number : 62 Question Id : 7614462472 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

First law of thermodynamics represents conservation of

Options :

7614469845. ✖ Pressure

7614469846. ✖ Momentum

7614469847. ✖ Entropy

7614469848. ✔ Energy

Question Number : 63 Question Id : 7614462473 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 of a particle executing Simple Harmonic Motion is given by $x = a\,Cos\frac{\pi t}{2}$ where 'x' and 'a' are in metre. The distance covered by it in the time interval between t = 0 sec to t = 4 sec in metre is

Options :

7614469849. ✖ 0

7614469850. ✖ 2a

7614469851. ✔ 4a

7614469852. ✖ 3a

Question Number : 64 Question Id : 7614462474 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes 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 simple pendulum 80 cm long oscillates with amplitude of 0.02 m. The acceleration at the ends of its path is (take g = 10 ms^{-2})

Options :

7614469853. ✖ 0 ms^{-2}

7614469854. ✔ 0.25 ms^{-2}

7614469855. ✖ 2.5 ms^{-2}

7614469856. ✖ 10 ms^{-2}

Question Number : 65 Question Id : 7614462475 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 particle undergoing Simple Harmonic Motion passes through the mean position with a velocity of 2 ms^{-1}. The velocity of the particle at the point where its displacement is half the amplitude is

Options :

7614469857. ✖ $2\sqrt{3}\,ms^{-1}$

7614469858. ✖ $4\sqrt{3}\,ms^{-1}$

7614469859. ✖ $0\,ms^{-1}$

7614469860. ✔ $\sqrt{3}\ ms^{-1}$

Question Number : 66 Question Id : 7614462476 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 boy standing between two parallel walls fires a gun. He hears the first echo after 4 sec and next after 6 sec. The distance between the two walls is (take velocity of sound in air as 340 m/s)

Options :

7614469861. ✖ 680 m

7614469862. ✖ 1020 m

7614469863. ✔ 1700 m

7614469864. ✖ 340 m

Question Number : 67 Question Id : 7614462477 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 good acoustic hall the distribution of sound should be

Options :

7614469865. ✖ Gradually increasing

7614469866. ✖ Exponentially increasing

7614469867. ✖ Randomly change

7614469868. ✔ Uniform

Question Number : 68 Question Id : 7614462478 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 magnetic poles placed 5cm apart in air attract each other with a force of 100 dyne. How far from each other should they be placed to get the force of attraction 25 dyne?

Options :

7614469869. ✔ 10 cm

7614469870. ✖ 4 cm

7614469871. ✖ 2 cm

7614469872. ✖ 6 cm

Question Number : 69 Question Id : 7614462479 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 Wheatstone bridge, the four arms have each a resistance of 50 ohm. The galvanometer current is:

Options :

7614469873. ✖ 0.05 A

7614469874. ✖ 0.5 A

7614469875. ✔ 0 A

7614469876. ✖ 5 A

Question Number : 70 Question Id : 7614462480 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 transformer, the number of turns in secondary and primary coils are 50 and 200 respectively. If 4 A of current is flowing through the primary, the current flowing through the secondary coil is

Options :

7614469877. ✔ 1 A

7614469878. ✖ 2 A

7614469879. ✖ 3 A

7614469880. ✖ 4 A

Question Number : 71 Question Id : 7614462481 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Electrons are ejected when a photosensitive material is illuminated by violet light but not by blue light. Would electrons come out from the same material when it is illuminated by red light?

Options :

7614469881. ✖ Yes

7614469882. ✔ No

7614469883. ✖ Yes, if intensity of incident light is increased

7614469884. ✖ Yes, if material is illuminated for a long time

Question Number : 72 Question Id : 7614462482 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Optical fibres are electrically

Options :

7614469885. ✖ Conductors

7614469886. ✖ Superconductors

7614469887. ✖ Semiconductors

7614469888. ✔ Insulators

Question Number : 73 Question Id : 7614462483 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 superconducting state the material behaves as

Options :

7614469889. ✔ Perfect diamagnetic

7614469890. ✖ Weak diamagnetic

7614469891. ✖ Perfect ferromagnetic

7614469892. ✖ Weak paramagnetic

Question Number : 74 Question Id : 7614462484 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 semiconductors at room temperature

Options :

7614469893. ✖ The conduction band is completely empty

7614469894. ✔ The valence band is partially empty and the conduction band is partially filled

The valence band is completely filled and the conduction band is partially filled

7614469895. ✖

7614469896. ✖ The valence band is completely filled

Question Number : 75 Question Id : 7614462485 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Semiconductors are doped

Options :

7614469897. ✖ To increase the resistivity

7614469898. ✔ To get the desired level of conductivity

7614469899. ✖ To reduce the conductivity

7614469900. ✖ To get the positive temperature coefficient of resistance

Chemistry

Section Id :	76144649
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 :	76144663
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 76 Question Id : 7614462486 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 neutrons present in an element with atomic number 19 and mass number 39.

Options :

7614469901. ✖ 19

7614469902. ✖ 58

7614469903. ✖ 39

7614469904. ✔ 20

Question Number : 77 Question Id : 7614462487 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 dative bond is present in

Options :

7614469905. ✖ Ammonia

7614469906. ✔ Ammonium ion

7614469907. ✖ Urea

7614469908. ✖ Nitrogen

Question Number : 78 Question Id : 7614462488 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 molecules contains coordinate covalent bond?

Options :

7614469909. ✖ NH_2^-

7614469910. ✖ N_2H_4

7614469911. ✔ H_3O^+

7614469912. ✖ H_2O_2

Question Number : 79 Question Id : 7614462489 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Concentrated hydrochloric acid contains 37% (by mass) HCl. The density of its solution is 1.18 g/mL. The molarity of HCl is

Options :

7614469913. ✔ 12.0

7614469914. ✖ 16.03

7614469915. ✖ 6.0

7614469916. ✖ 1.20

Question Number : 80 Question Id : 7614462490 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 colloidal solution can be purified by the method of

Options :

7614469917. ✖ Peptization

7614469918. ✔ Dialysis

7614469919. ✖ Mechanical Dispersion

7614469920. ✖ Oxidation

Question Number : 81 Question Id : 7614462491 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 compound that does not act as a Lewis acid.

Options :

7614469921. ✔ $BaCl_2$

7614469922. ✖ $AlCl_3$

7614469923. ✖ BF_3

7614469924. ✖ $BeCl_2$

Question Number : 82 Question Id : 7614462492 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 value of 0.001 M NaOH solution is

Options :

7614469925. ✖ 3

7614469926. ✖ 9

7614469927. ✖ 7

7614469928. ✔ 11

Question Number : 83 Question Id : 7614462493 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 solvent not used for green synthesis is

Options :

7614469929. ✔ Aniline

7614469930. ✖ Room temperature ionic liquids

7614469931. ✖ Bio solvents

7614469932. ✖ Supercritical fluids

Question Number : 84 Question Id : 7614462494 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 days is celebrated in the form of World Environment Day all around the world?

Options :

7614469933. ✖ July 5th

7614469934. ✖ June 10th

7614469935. ✖ October 20th

7614469936. ✔ June 5th

Question Number : 85 Question Id : 7614462495 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Extra pure water can be obtained by using

Options :

7614469937. ✖ Lime – Soda process

7614469938. ✖ Permutit process

7614469939. ✖ Ion-exchange process

7614469940. ✔ Electrodialysis process

Question Number : 86 Question Id : 7614462496 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Sterilization of water can be done by using

Options :

7614469941. ✔ Ozone

7614469942. ✖ Oxygen

7614469943. ✖ Caustic Potash

7614469944. ✖ Hydrogen peroxide

Question Number : 87 Question Id : 7614462497 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 product formed at cathode when Pt electrodes are used in the electrolysis of Fused NaCl.

Options :

7614469945. ✖ Cl_2

7614469946. ✖ NaOH

7614469947. ✖ HCl

7614469948. ✔ Na

Question Number : 88 Question Id : 7614462498 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 electrochemical equivalent (z) of copper, when 0.3950 g of copper is deposited by a current of 0.5 amperes in 40 minutes.

Options :

7614469949. ✔ 0.0003292 g

7614469950. ✖ 0.003950 g

7614469951. ✖ 0.0001646 g

7614469952. ✖ 0.00164 g

Question Number : 89 Question Id : 7614462499 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Extraction of zinc from zinc blende is achieved by

Options :

7614469953. ✖ Electrolytic reduction

7614469954. ✔ Roasting followed by reduction with carbon

7614469955. ✖ Roasting followed by reduction with another metal

7614469956. ✖ Roasting followed by self-reduction

Question Number : 90 Question Id : 7614462500 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 blast furnace iron oxide is reduced by

Options :

7614469957. ✖ Silica

7614469958. ✔ Carbon monoxide

7614469959. ✖ Carbon

7614469960. ✖ Limestone

Question Number : 91 Question Id : 7614462501 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 electrochemical corrosion in acidic environment

Options :

7614469961. ✖ Oxygen evolution occurs

7614469962. ✔ Hydrogen evolution takes place

7614469963. ✖ Oxygen absorption occurs

7614469964. ✖ Hydrogen absorption takes place

Question Number : 92 Question Id : 7614462502 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes 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 cementation of iron with zinc powder is known as

Options :

7614469965. ✔ Sheradising

7614469966. ✖ Galvanizing

7614469967. ✖ Zincing

7614469968. ✖ Tinning

Question Number : 93 Question Id : 7614462503 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 manufactured by the reaction between

Options :

7614469969. ✖ Urea and formaldehyde

7614469970. ✖ Phthalic acid and ethylene glycol

7614469971. ✖ Ethylene glycol and formaldehyde

7614469972. ✔ Phenol and formaldehyde

Question Number : 94 Question Id : 7614462504 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 an elastomer

Options :

7614469973. ✖ Polystyrene

7614469974. ✔ Buna-S rubber

7614469975. ✖ Melamine

7614469976. ✖ Dacron

Question Number : 95 Question Id : 7614462505 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 good fuel has

Options :

7614469977. ✔ Moderate ignition temperature and high calorific value

7614469978. ✖ High ignition temperature and high calorific value

7614469979. ✖ Low ignition temperature and low calorific value

7614469980. ✖ Low ignition temperature and high calorific value

Question Number : 96 Question Id : 7614462506 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 best example of splash lubrication is

Options :

7614469981. ✖ Wick feed lubricator

7614469982. ✔ Ring lubricator

7614469983. ✖ Grease Gun

7614469984. ✖ Pump lubricator

Question Number : 97 Question Id : 7614462507 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Saturated calomel electrode standard reduction potential value in Volts is

Options :

7614469985. ✖ 0

7614469986. ✖ 0.6990

7614469987. ✖ − 0. 242

7614469988. ✔ + 0.242

Question Number : 98 Question Id : 7614462508 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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, E° for the cell is

$$Zn_{(s)} + 2Fe^{3+}_{(aq)} \rightleftharpoons 2Fe^{2+}_{(aq)} + Zn^{2+}_{(aq)}$$

(Standard Reduction potentials of Zn and Fe electrodes are – 0.76V and + 0.77V respectively)

Options :

7614469989. ✔ 1.53 V

7614469990. ✖ 0.01 V

7614469991. ✖ − 1.53 V

7614469992. ✖ 0.78 V

Question Number : 99 Question Id : 7614462509 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 gas that is responsible for Bhopal gas tragedy is

Options :

7614469993. ✔ Methyl isocyanate

7614469994. ✖ Methyl chloroformate

7614469995. ✖ Methyl isopropyl ether

7614469996. ✖ Methyl isobutyrate

Question Number : 100 Question Id : 7614462510 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 gases is largely responsible for acid – rain?

Options :

7614469997. ✖ CO and CO_2

7614469998. ✖ NO and NO_2

7614469999. ✔ SO_2 and NO_2

76144610000. ✖ N_2 and O_2

MINING ENGINEERING

Section Id : 76144650

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 :	76144664
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 101 Question Id : 7614462511 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 Walling Scaffold is shaft sinking process

Options :

76144610001. ✖ Reaching the walls

76144610002. ✖ Drilling purpose

76144610003. ✔ Construction of brick wall

76144610004. ✖ Supply of ventilation

Question Number : 102 Question Id : 7614462512 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Explosive performance depends only on_____

Options :

76144610005. ✖ The shock energy of the explosive

76144610006. ✖ The bubble energy of the explosive

76144610007. ✔ The velocity of detonation and detonation pressure

76144610008. ✖ The total energy

Question Number : 103 Question Id : 7614462513 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

76144610009. ✖ Does not need detonators for initiation

76144610010. ✖ It can not be used in under-water condition

76144610011. ✔ It is not affected by static electricity or strong currents

76144610012. ✖ It creates a lot of noise

Question Number : 104 Question Id : 7614462514 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 type of device is recommended for good core recovery from soft rock?

Options :

76144610013. ✖ Single tube core barrel

76144610014. ✔ Double tube core barrel

76144610015. ✖ Saw toothed crown

76144610016. ✖ Roller bits

Question Number : 105 Question Id : 7614462515 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Where is reserve station located

Options :

76144610017. ✔ Isolated Place

76144610018. ✖ Travelling road way

76144610019. ✖ Haulage road way

76144610020. ✖ Manhole

Question Number : 106 Question Id : 7614462516 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 metalliferrous deposit ,the ore minerals generally occur in association with some non-metallic minerals known as_____

Options :

76144610021. ✖ Late magmatic mineral deposit

76144610022. ✖ Cap rock

76144610023. ✖ Ore shoots

76144610024. ✔ Gangue

Question Number : 107 Question Id : 7614462517 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 freezing method of shaft sinking which is used for circulation?

Options :

76144610025. ✖ HCl

76144610026. ✖ HNO_3

76144610027. ✔ $CaCl_2$

76144610028. ✖ $NaCl$

Question Number : 108 Question Id : 7614462518 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 device is provided in sinking shaft in case of

Over wind?

Options :

76144610029. ✔ spider

76144610030. ✖ kibble

76144610031. ✖ detaching hook

76144610032. ✖ rider

Question Number : 109 Question Id : 7614462519 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

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

Correct Marks : 1 Wrong Marks : 0

Flame safety lamp is used for testing

Options :

76144610033. ✖ CO

76144610034. ✖ CO_2

76144610035. ✔ CH_4

76144610036. ✖ H_2S

Question Number : 110 Question Id : 7614462520 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 inhaled air of human being in normal atmosphere_____

Options :

76144610037. ✔ N_2:79% O_2:21%

76144610038. ✖ N_2:21% O_2:79%

76144610039. ✖ N_2:0% O_2:100%

76144610040. ✖ N_2:100% O_2:0%

Question Number : 111 Question Id : 7614462521 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 excavating a useful mineral, the uneconomic rock or mineral associated with it,which has to be excavated and discarded is called

Options :

76144610041. ✖ Country rock

76144610042. ✔ Gangue

76144610043. ✖ Bed rock

76144610044. ✖ Ore

Question Number : 112 Question Id : 7614462522 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Correct order of Moh's scale of hardness is

Options :

76144610045. ✖ Talc, Calcite, Topaz, Quartz

76144610046. ✖ Talc, Topaz, Calcite, Quartz

76144610047. ✖ Calcite , Talc ,Topaz, Quartz

76144610048. ✔ Talc, Calcite, Quartz, Topaz

Question Number : 113 Question Id : 7614462523 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 mineral is not a Metallic mineral

Options :

76144610049. ✖ Platinum

76144610050. ✖ Copper

76144610051. ✖ Zinc

76144610052. ✔ Asbestos

Question Number : 114 Question Id : 7614462524 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 rocks formed by cooling of molten material (magma) at or relatively near the surface of the earth are:

Options :

76144610053. ✖ Metamorphic rocks

76144610054. ✖ Sedimentary rocks

76144610055. ✔ Igneous rocks

76144610056. ✖ Country rocks

Question Number : 115 Question Id : 7614462525 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 metamorphic rocks produced by Granite is

Options :

76144610057. ✖ Quartzite

76144610058. ✖ Shale

76144610059. ✖ Argillite

76144610060. ✔ Gneiss

Question Number : 116 Question Id : 7614462526 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Basic rocks contains Silica content in the range of

Options :

76144610061. ✖ More than 60%

76144610062. ✖ Between 55% to 60%

76144610063. ✔ Between 45% to 55%

76144610064. ✖ Less than 45%

Question Number : 117 Question Id : 7614462527 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 rock is not a Sedimentary rock

Options :

76144610065. ✖ Conglomerate

76144610066. ✖ Laterite

76144610067. ✖ Shale

76144610068. ✔ Gabbro

Question Number : 118 Question Id : 7614462528 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 weathered upper part of ore deposits, which outcrop at the surface undergo weathering in the outcrop zone and may compose is called as

Options :

76144610069. ✔ Gossan

76144610070. ✖ Washout

76144610071. ✖ Metamorphism

76144610072. ✖ Swilley

Question Number : 119 Question Id : 7614462529 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 crest of a fold where the strata are bent up to form an arch is known as

Options :

76144610073. ✖ A Syncline

76144610074. ✖ A Outlier

76144610075. ✖ An Inlier

76144610076. ✔ An Anticline

Question Number : 120 Question Id : 7614462530 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

According to Geological Time Scale, the Permian period belongs to the following era:

Options :

76144610077. ✔ Palaeozoic

76144610078. ✖ Keinozoic

76144610079. ✖ Mesozoic

76144610080. ✖ Archeans

Question Number : 121 Question Id : 7614462531 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 most commonly used extraction line in caving panel is____

Options :

76144610081. ✖ Straight

76144610082. ✔ Diagonal

76144610083. ✖ Step Diagonal

76144610084. ✖ Steep Diagonal

Question Number : 122 Question Id : 7614462532 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

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

Correct Marks : 1 Wrong Marks : 0

Working in an underground coal mine are sectionalized into different districts for the purpose of _____

Options :

76144610085. ✔ Quick isolation in the event of a spontaneous heating or fire

76144610086. ✖ For better management and production control

76144610087. ✖ For effective strata control

76144610088. ✖ To contain methane emission in disused workings

Question Number : 123 Question Id : 7614462533 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Long wall mining method is best suitable for

Options :

76144610089. ✔ Flat & moderately flat seam

76144610090. ✖ Steeply inclined seam

76144610091. ✖ Fractured and geologically disturbed seam

76144610092. ✖ Steeply dipping and watery seams

Question Number : 124 Question Id : 7614462534 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 long wall mining of coal, identify the statement applicable to the advancing method

Options :

76144610093. ✖ Easy maintenance of gate roads

76144610094. ✖ Superior ventilation

76144610095. ✖ Prior knowledge of geological disturbances

76144610096. ✔ Early production from the longwall face

Question Number : 125 Question Id : 7614462535 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Sand water mixture sent to underground coal depillaring district is known as _____

Options :

76144610097. ✖ Jigging operation

76144610098. ✖ Gravity separation operation

76144610099. ✔ Stowing operation

76144610100. ✖ Coal drawing operation

Question Number : 126 Question Id : 7614462536 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In "Hydraulic mining" coal is broken by_____

Options :

76144610101. ✖ Coal drill

76144610102. ✔ Jet monitor

76144610103. ✖ Coal cutting machine

76144610104. ✖ blasting

Question Number : 127 Question Id : 7614462537 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 this method partial combustion of coal is done with an objective to extract energy from the coal seam

Options :

76144610105. ✖ Methane drainage

76144610106. ✔ Underground coal gasification

76144610107. ✖ Vertical drilling or raising

76144610108. ✖ Spontaneous heating

Question Number : 128 Question Id : 7614462538 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Between two panels ,what is the minimum size of barrier?

Options :

76144610109. ✖ Equal to width of gallery size

76144610110. ✖ Equal to dimension of panel

76144610111. ✔ Equal to pillar size

76144610112. ✖ Equal to face dimension

Question Number : 129 Question Id : 7614462539 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 average number of faces in a district if number of headings are N .

Options :

76144610113. ✖ (N-1)

76144610114. ✗ 2(N-1)

76144610115. ✗ 2(N-2)

76144610116. ✓ (2N-1)

Question Number : 130 Question Id : 7614462540 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 roads driven parallel to the strike in horizon mining are called_____

Options :

76144610117. ✓ Laterals

76144610118. ✗ Cross cuts

76144610119. ✗ levels

76144610120. ✗ Strike

Question Number : 131 Question Id : 7614462541 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Continuous miner and shuttle car combination is NOT applicable in mining with

Options :

76144610121. ✖ Rib pillar extraction technique

76144610122. ✖ Wangawilli system

76144610123. ✖ Room and Pillar method

76144610124. ✔ Longwall method

Question Number : 132 Question Id : 7614462542 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 type of drilling pattern is followed in Blasting Gallery Method____

Options :

76144610125. ✔ Ring pattern

76144610126. ✖ Burn cut pattern

76144610127. ✖ Wedge cut

76144610128. ✖ Coromant cut

Question Number : 133 Question Id : 7614462543 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 method of surface mining involves mining and washing together of unconsolidated rock near ground surface is called as

Options :

76144610129. ✔ Placer mining

76144610130. ✖ Strip mining

76144610131. ✖ Open cut mining

76144610132. ✖ Glory hole mining

Question Number : 134 Question Id : 7614462544 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 limiting gradient of roads in quarries for tyred vehicular traffic is

Options :

76144610133. ✖ 1 in 16

76144610134. ✖ 1 in 5

76144610135. ✔ 1 in 10

76144610136. ✖ 1 in 7

Question Number : 135 Question Id : 7614462545 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 excavator

Options :

76144610137. ✖ Dipper Shovel

76144610138. ✖ Dragline

76144610139. ✔ Dozer

76144610140. ✖ Front end Loader

Question Number : 136 Question Id : 7614462546 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Jackhammer drill works at a pressure of

Options :

76144610141. ✖ 3 kgf/cm^2

76144610142. ✔ 6 kgf/cm^2

76144610143. ✖ 9 kgf/cm^2

76144610144.

✖ 12 kgf/cm^2

Question Number : 137 Question Id : 7614462547 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 non-electric delay detonating relay does not contain

Options :

76144610145. ✖ Delay element

76144610146. ✖ Fuse head

76144610147. ✔ Metal sleeve

76144610148. ✖ Neoprene connecting tube

Question Number : 138 Question Id : 7614462548 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 magazine construction should be approved by the

Options :

76144610149. ✖ Chief Inspector of Mines

76144610150. ✖ Regional Inspector of Mines

76144610151. ✔ Inspector of Explosives

76144610152. ✖ Inspector of Police

Question Number : 139 Question Id : 7614462549 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 distance between the free face to the blast hole is known as

Options :

76144610153. ✖ Spacing

76144610154. ✔ Burden

76144610155. ✖ Bench height

76144610156. ✖ Bench width

Question Number : 140 Question Id : 7614462550 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Periodical assessment of impact of opencast mining operations on environment are carried out by

Options :

76144610157. ✖ Environmental management plan (EMP)

76144610158. ✔ Environmental Impact assessment (EIA)

76144610159. ✖ Disaster management plan

76144610160. ✖ Risk assessment plan

Question Number : 141 Question Id : 7614462551 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 term is not related to opencast mining?

Options :

76144610161. ✖ Crest

76144610162. ✔ Winze

76144610163. ✖ Highwall

76144610164. ✖ Boxcut

Question Number : 142 Question Id : 7614462552 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 machine used to carryout selective mining operations in surface mining is

Options :

76144610165. ✖ Dipper Shovel

76144610166. ✖ Dragline

76144610167. ✔ Hydraulic Shovel

76144610168. ✖ Rope Shovel

Question Number : 143 Question Id : 7614462553 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 case of an opencast blasting the danger zone comprises of area within the radius of

Options :

76144610169. ✖ 300 meters from the place of firing

76144610170. ✖ 400 meters from the place of firing

76144610171. ✔ 500 meters from the place of firing

76144610172. ✖ 600 meters from the place of firing

Question Number : 144 Question Id : 7614462554 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 bench height is 12m; burden: 4m; spacing: 5m; explosive per hole is 120kg; density of rock is 2600 kg/cu.m; the powder factor in tone/kg is

Options :

76144610173. ✖ 2.0

76144610174. ✖ 4.6

76144610175. ✔ 5.2

76144610176. ✖ 7.3

Question Number : 145 Question Id : 7614462555 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 shear stress on a plane on which the major principal stress acts is _____

Options :

76144610177. ✖ Half the major principal stress

76144610178. ✖ Twice the major principal stress

76144610179. ✔ Shear stress is absent

76144610180. ✖ Equal to the major principal stress

Question Number : 146 Question Id : 7614462556 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 lateral strain is 0.0025 and longitudinal strain is 0.01,then the value of Poisson's ratio is_____

Options :

76144610181. ✔ 0.25

76144610182. ✖ 0.50

76144610183. ✖ 4.0

76144610184. ✖ 1.0

Question Number : 147 Question Id : 7614462557 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

76144610185. ✖ Compressive strength of rock

76144610186. ✖ Drill core quality

76144610187. ✔ Shear strength of rock

76144610188. ✖ Ground water condition

Question Number : 148 Question Id : 7614462558 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 quality Designation(RQD) is a technique ,for evaluating cavability characteristics of Mining operations, in which the percentage of intact core is measure, where in all cores that are equal to or greater than_____length are considered

Options :

76144610189. ✖ 25 cm

76144610190. ✖ 20 cm

76144610191. ✖ 15 cm

76144610192. ✔ 10 cm

Question Number : 149 Question Id : 7614462559 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Griffith, Coloumb , Navier theories are related to_____

Options :

76144610193. ✖ Pillar Strength

76144610194. ✔ Rock failure

76144610195. ✖ Subsidence

76144610196. ✖ Slope stability

Question Number : 150 Question Id : 7614462560 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Geo-mechanical classification also called_____

Options :

76144610197. ✖ RQD

76144610198. ✖ DQR

76144610199. ✔ RMR

76144610200. ✖ Q-System

Question Number : 151 Question Id : 7614462561 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Ratio of change in length to original length is_____

Options :

76144610201. ✖ Stress

76144610202. ✖ Strength

76144610203. ✖ UCS

76144610204. ✔ Strain

Question Number : 152 Question Id : 7614462562 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 instrument used to measure the deformation between the layers of the strata

Options :

76144610205. ✖ Flat Jack

76144610206. ✖ Bore hole extensometer

76144610207. ✔ Tel- Tale extensometer

76144610208. ✖ Loadcell

Question Number : 153 Question Id : 7614462563 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Radius of the mohrs circle given major and minor principal stresses σ_1 *and* σ_3 respectively

Options :

76144610209. ✔ $\frac{\sigma_1 - \sigma_3}{2}$

76144610210. ✖ $\frac{\sigma_1 + \sigma_3}{2}$

76144610211. ✖ $\frac{\sigma_1 \times \sigma_3}{2}$

76144610212. ✖ $\frac{\sigma_1^2}{2}$

Question Number : 154 Question Id : 7614462564 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 crack will extend only when the total potential energy of the system of applied forces and material decreases or remain constant with an increase in crack length"-Who has given this concept?

Options :

76144610213. ✖ Coulomb

76144610214. ✖ Terzaghi

76144610215. ✖ Bieniawski

76144610216. ✔ Griffith

Question Number : 155 Question Id : 7614462565 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 ground in the central portion of the subsidence trough is subjected to _____

Options :

76144610217. ✖ Lateral tension

76144610218. ✔ Vertical compression

76144610219. ✖ Lateral compression

76144610220. ✖ Depth of Opening

Question Number : 156 Question Id : 7614462566 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 prop free front face, the roof support is provided by_____

Options :

76144610221. ✖ Hydraulic chocks

76144610222. ✔ Cantilever bar

76144610223. ✖ Triangular chocks

76144610224. ✖ Steel prop

Question Number : 157 Question Id : 7614462567 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 carbon percentage in the wire rope is

Options :

76144610225. ✖ 0.44

76144610226. ✔ 0.5

76144610227. ✖ 0.03

76144610228. ✖ 0.75

Question Number : 158 Question Id : 7614462568 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 wire rope, round stranded with fibre core, has a diameter of 2.54cm. Determine the mass of rope if the values of constants k = 0.36 and s = 52.

Options :

76144610229. ✔ 2.32 kg/m

76144610230. ✖ 0.91 kg/m

76144610231. ✖ 1.32 kg/m

76144610232. ✖ 3.29 kg/m

Question Number : 159 Question Id : 7614462569 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 Electrical braking system on winder?

Options :

76144610233. ✖ Counter current braking

76144610234. ✖ Dynamic braking

76144610235. ✔ Suspended caliper braking

76144610236. ✖ Regenerative braking

Question Number : 160 Question Id : 7614462570 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 Direct rope haulage can be deployed up a gradient of steeper than

Options :

76144610237. ✖ 1 in 50

76144610238. ✖ 1 in 20

76144610239. ✖ 1 in 15

76144610240. ✔ 1 in 10

Question Number : 161 Question Id : 7614462571 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 sequence of attachments between the winding rope and the cage is

Options :

76144610241. ✖ Triangular plate, Capel, Detaching hook

76144610242. ✖ Detaching hook, Triangular plate, Capel

76144610243. ✖ Triangular plate, Detaching hook , Capel

76144610244. ✔ Capel, Detaching hook, Triangular plate

Question Number : 162 Question Id : 7614462572 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 safety device is not associate with the endless rope haulage

Options :

76144610245. ✖ Monkey catch

76144610246. ✖ Back stay

76144610247. ✖ Jazz rails

76144610248. ✔ Drop warrick

Question Number : 163 Question Id : 7614462573 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 tractive effort of Locomotive depends on

Options :

76144610249. ✖ Velocity of locomotive

76144610250. ✔ Weight of locomotive

76144610251. ✖ Rolling friction of locomotive

76144610252. ✖ Drawbar pull

Question Number : 164 Question Id : 7614462574 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

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

Correct Marks : 1 Wrong Marks : 0

Exhaust conditioner is associated with

Options :

76144610253. ✖ Belt conveyor

76144610254. ✔ Diesel Locomotives

76144610255. ✖ Battery Locomotives

76144610256. ✖ Rope haulage

Question Number : 165 Question Id : 7614462575 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 Belt Conveyor, the drum drives the belt by friction, the pulleys used to increase the area of contact are

Options :

76144610257. ✖ Idler rollers

76144610258. ✖ Tension pulleys

76144610259. ✔ Snub pulleys

76144610260. ✖ Return rollers

Question Number : 166 Question Id : 7614462576 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The purpose of retaining valve in pump fittings is

Options :

76144610261. ✔ To hold the water in delivery column

76144610262. ✖ To discharge the water into delivery column

76144610263. ✖ To enable the pump to be primed with water from delivery column

76144610264. ✖ To release the air when priming the pump

Question Number : 167 Question Id : 7614462577 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 power required to run a pump is varies

Options :

76144610265. ✖ Directly proportional to the peripheral speed of the impeller

76144610266. ✖ Directly proportional to the square of peripheral speed of the impeller

76144610267. ✔ Directly proportional to the cube of peripheral speed of the impeller

76144610268. ✖ Inversely proportional to the peripheral speed of the impeller

Question Number : 168 Question Id : 7614462578 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The purpose of pilot core in trailing cable is

Options :

76144610269. ✖ For earth continuity

76144610270. ✔ For remote operations

76144610271. ✖ For over current protection

76144610272. ✖ For overload protection

Question Number : 169 Question Id : 7614462579 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 principle of surveying should be_____

Options :

76144610273. ✖ Working from part to the whole

76144610274. ✔ Working from whole to the part

76144610275. ✖ Working through check lines

76144610276. ✖ Working through tie lines

Question Number : 170 Question Id : 7614462580 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 art of determining the relative heights or elevations of points or objects on the earths surface is known as_____-

Options :

76144610277. ✔ Levelling

76144610278. ✖ reconnassing

76144610279. ✖ staffing

76144610280. ✖ checking

Question Number : 171 Question Id : 7614462581 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 elevation and depressions of the surface of the ground are shown on a map by means of any one of the following lines. Which is the line?

Options :

76144610281. ✖ object

76144610282. ✖ collimation

76144610283. ✔ contour

76144610284. ✖ Back sight

Question Number : 172 Question Id : 7614462582 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Every line has two bearings e.g fore bearing and back bearing .If fore bearing is less than 180^0, then what will be the back bearing?

Options :

76144610285. ✖ Back bearing = fore bearing -180^0

76144610286. ✔ Back bearing = fore bearing$+180^0$

76144610287. ✖ Back bearing = fore bearing

76144610288. ✖ Back bearing$=180^0$ – fore bearing

Question Number : 173 Question Id : 7614462583 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 statement in respect of theodolite is true

Options :

76144610289. ✖ It measures horizontal angle only

76144610290. ✖ It measures vertical angle only

76144610291. ✔ It measures both horizontal and vertical angles

76144610292. ✖ It does not measure any angle at all

Question Number : 174 Question Id : 7614462584 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 sum of interior angles in the closed travers of pentagonal is

Options :

76144610293. ✔ 540^0

76144610294. ✖ 720^0

76144610295. ✖ 900^0

76144610296. ✖ 360^0

Question Number : 175 Question Id : 7614462585 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 latitude of a line is obtained by multiplying its length by _____
(Where θ is the reduced bearing)

Options :

76144610297. ✖ tan θ

76144610298. ✖ sin θ

76144610299. ✔ Cos θ

76144610300. ✖ Cot θ

Question Number : 176 Question Id : 7614462586 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 levelling station over which two readings are taken is known as

Options :

76144610301. ✖ Benchmark

76144610302. ✖ Intermediate station

76144610303. ✔ Change point

76144610304. ✖ Levelling point

Question Number : 177 Question Id : 7614462587 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 length of the tangent of a simple circular curve of radius R and angle of deflection **θ** is given by_____

Options :

76144610305. ✖ Rcos (θ /2)

76144610306. ✖ R sin (θ /2)

76144610307. ✔ Rtan (θ/2)

76144610308. ✖ Rcot (θ /2)

Question Number : 178 Question Id : 7614462588 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 bedding plane full dip = α ,apparent dip=β, angle between full dip and apparent dip =θ than relation between Apparent and full dip _____

Options :

76144610309. ✖ Tan β =Tan θ × Cos α

76144610310. ✖ Tan α =Tan θ × Cos β

76144610311. ✔ Cot β = Cot α × Sec θ

76144610312. ✖ $\text{Cot } \beta = \text{Cot } \theta \times \text{Sec } \alpha$

Question Number : 179 Question Id : 7614462589 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 survey instruments is designed to work based on the satellite____

Options :

76144610313. ✖ EDM

76144610314. ✖ Gyro

76144610315. ✔ GPS

76144610316. ✖ Eidograph

Question Number : 180 Question Id : 7614462590 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 full form GIS is_____

Options :

76144610317. ✖ Geological information system

76144610318.

✖ Geodetic information system

76144610319. ✔ Geographic information system

76144610320. ✖ Global information system

Question Number : 181 Question Id : 7614462591 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 Shaft is sunk always in the -----in a metal mine

Options :

76144610321. ✖ Hanging wall

76144610322. ✔ Foot wall

76144610323. ✖ Vein

76144610324. ✖ Drift

Question Number : 182 Question Id : 7614462592 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Open raising method adoptable at an Inclination of ----- with the horizontal

Options :

76144610325. ✔ 40^0– 60^0

76144610326. ✖ 50^0– 60^0

76144610327. ✖ 60^0– 80^0

76144610328. ✖ 60^0– 70^0

Question Number : 183 Question Id : 7614462593 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 massive ore bodies, weak ore, weak or strong walls which method is suitable from the following

Options :

76144610329. ✖ Shrinkage

76144610330. ✖ Room and Pillar

76144610331. ✖ Cut and Fill

76144610332. ✔ Square-set

Question Number : 184 Question Id : 7614462594 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 massive ore bodies, strong ore, strong walls which method is suitable from the following

Options :

76144610333. ✔ Shrinkage

76144610334. ✖ Room and Pillar

76144610335. ✖ Block caving

76144610336. ✖ Square-set

Question Number : 185 Question Id : 7614462595 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 thin ore bodies, flat and strong ore, strong walls which method is suitable from the following

Options :

76144610337. ✖ Longwall

76144610338. ✔ Room and Pillar

76144610339. ✖ Block caving

76144610340. ✖ Square-set

Question Number : 186 Question Id : 7614462596 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Alimak Raise Climber is used for drivage of

Options :

76144610341. ✖ Short raises

76144610342. ✖ Medium raises

76144610343. ✔ Long raises

76144610344. ✖ Zero raises

Question Number : 187 Question Id : 7614462597 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

VCR means in metal mines

Options :

76144610345. ✔ Vertical Crater Retreat

76144610346. ✖ Vertical Column Retreat

76144610347. ✖ Vertical Crater Return

76144610348. ✖ Vertical Column Return

Question Number : 188 Question Id : 7614462598 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 deep mining will become common in the future for coal and metals.

Options :

76144610349. ✔ Resources at shallow depths gradually become exhausted

76144610350. ✖ Demand of minerals increased

76144610351. ✖ Technology availability

76144610352. ✖ Human resources availability

Question Number : 189 Question Id : 7614462599 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Major challenges with deep mining are

Options :

76144610353. ✖ High in situ stress

76144610354. ✖ High-temperature heat hazard

76144610355. ✖ High water pressure

76144610356. ✔ Deep lithology deterioration, Deep hoisting, High water pressure, High in situ stress and temperatures

Question Number : 190 Question Id : 7614462600 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The following is not a sampling method for collections of samples

Options :

76144610357. ✖ Chip Sampling and Drill Sampling

76144610358. ✖ Channel or Groove Sampling

76144610359. ✖ Face sampling, Muck sampling and Bulk Sampling

76144610360. ✔ Drag Sampling

Question Number : 191 Question Id : 7614462601 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 the air and mineral flow are in the same direction the ventilation is called as_____

Options :

76144610361. ✔ Homotropal

76144610362. ✖ Ascential ventilation

76144610363. ✖ Antiripal

76144610364. ✖ Descential ventilation

Question Number : 192 Question Id : 7614462602 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Natural ventilation can be caused by_____

Options :

76144610365. ✖ Auto-compression in downcast shaft

76144610366. ✔ Differences in air densities in upcast and downcast shafts

76144610367. ✖ Auto-expansion in upcast shaft

76144610368. ✖ Moisture content in the mine

Question Number : 193 Question Id : 7614462603 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 instrument used for measuring humidity is called

Options :

76144610369. ✔ Hygrometer

76144610370. ✖ Methanometer

76144610371. ✖ Galvanometer

76144610372. ✖ Thermometer

Question Number : 194 Question Id : 7614462604 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 diagram explain the limits of explosibility of CH_4_____

Options :

76144610373. ✔ Coward

76144610374. ✖ Le chetelier

76144610375. ✖ Grahams

76144610376. ✖ Palvalov

Question Number : 195 Question Id : 7614462605 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 system is adopted for continuous miner headings?

Options :

76144610377. ✖ Duct less auxiliary ventilation

76144610378. ✔ Overlap system of ventilation

76144610379. ✖ Exhaust type of ventilation without ducting

76144610380. ✖ Forcing type of ventilation

Question Number : 196 Question Id : 7614462606 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Ventilation survey usually means_____

Options :

76144610381. ✖ Quantity survey of air in the mine

76144610382. ✖ Quality survey in the mine

76144610383. ✔ Both quantity and pressure survey in the mine

76144610384. ✖ Pressure survey in the mine

Question Number : 197 Question Id : 7614462607 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 centrifugal fan smooth flow air and conversion of velocity energy into pressure energy takes place _____

Options :

76144610385. ✖ In spiral casing

76144610386. ✖ In the blades

76144610387. ✖ At the tip of the blades

76144610388. ✔ In the evasee

Question Number : 198 Question Id : 7614462608 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 you understand by Power of ventilation?

Options :

76144610389. ✖ Leakage of ventilation path

76144610390. ✖ Air flow through a duct of varying cross-section

76144610391. ✖ Size of regulators

76144610392. ✔ Rate at which work is done to maintain the air flow through a system

Question Number : 199 Question Id : 7614462609 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 rescue apparatus, pulmotor is

Options :

76144610393. ✖ Escape apparatus

76144610394. ✔ Reviving apparatus

76144610395. ✖ Breathing apparatus

76144610396. ✖ Emergency apparatus

Question Number : 200 Question Id : 7614462610 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 function of self rescuer is_____

Options :

76144610397. ✖ To supply 2 lit/min oxygen to wearer,

76144610398. ✔ To convert Co to CO_2,

76144610399. ✖ CO_2,To supply 30 lit/min of oxygen to wearer

76144610400.

- To convert CO_2 to O_2