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 :	Metallurgical Engineering 3rd Aug 2021 Shift2
Subject Name :	Metallurgical Engineering
Creation Date :	2021-08-03 18:35:32
Duration :	180
Total Marks :	200
Display Marks:	No
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

Metallurgical Engineering

Group Number :	1
Group Id :	800894116

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

Mathematics

Section Id :	800894450
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
Sub-Section Number :	1
Sub-Section Id :	800894516
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 80089423056 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $\begin{pmatrix} x+y & z+y \\ z-y & x-2y \end{pmatrix} = \begin{pmatrix} 12 & 9 \\ -1 & -3 \end{pmatrix}$ then $\begin{pmatrix} x & y \\ z & 2z \end{pmatrix} =$

Options :

1. ✖

$\begin{pmatrix} 5 & 7 \\ 4 & 8 \end{pmatrix}$

2. ✔ $\begin{pmatrix} 7 & 5 \\ 4 & 8 \end{pmatrix}$

3. ✖ $\begin{pmatrix} 6 & 7 \\ 3 & 6 \end{pmatrix}$

4. ✖ $\begin{pmatrix} 3 & 6 \\ 6 & 7 \end{pmatrix}$

Question Number : 2 Question Id : 80089423057 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $A = \begin{pmatrix} x & y & z \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{pmatrix}$ and $B = \begin{pmatrix} x & 2 & 3 \\ y & 5 & 6 \\ z & 8 & 9 \end{pmatrix}$ then

Options :

1. ✔ $\det(A - B) = \det A - \det B$

2. ✖ $\det A - \det B = 1$

3. ✖ $\det A + \det B = x + y + z$

4. ✖ $\det A = -\det B$

Question Number : 3 Question Id : 80089423058 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

If $\begin{pmatrix} -a^2 & ab & ac \\ ab & -b^2 & bc \\ ac & bc & -c^2 \end{pmatrix} = Ka^2b^2c^2$ then $K =$

Options :

1. ✔ 4

2. ✖ 6

3. ✖ 8

4. ✖ 2

Question Number : 4 Question Id : 80089423059 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

If the system of equations $x + 2y - 3z = 0, 3x - 2y + z = 0, kx - 14y + 15z = 0$ has nonzero solutions, then $k^2 - 2k - 3 =$

Options :

1. ✔ 12

2. ✖ 18

3. ✖ 5

4. ✖ 0

Question Number : 5 Question Id : 80089423060 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The partial fractions of $\frac{x^2+5x+10}{x+2} - \frac{2+6x+x^2}{x+3} =$

Options :

1. ✔ $\frac{4}{x+2} + \frac{7}{x+3}$

2. ✖ $\frac{4}{x+2} - \frac{7}{x+3}$

3. ✖ $\frac{7}{x+2} - \frac{4}{x+3}$

4. ✖ $\frac{4}{x+3} + \frac{7}{x+2}$

Question Number : 6 Question Id : 80089423061 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $4^{\log_9 3} + 9^{\log_2 4} = 5^{\log_x 83}$, then

Options :

1. ✖ $x^3 + 4x^2 - 4x - 5 = 0$

2. ✖ $x^3 - 4x^2 - 4x + 5 = 0$

3. ✖ $x^3 - 4x^2 + 4x - 5 = 0$

4. ✔ $x^3 - 4x^2 - 4x - 5 = 0$

Question Number : 7 Question Id : 80089423062 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

$\log_e x + \log_e(1+x) = 0 \Rightarrow x =$

Options :

1. ✖ $\frac{-1-\sqrt{5}}{2}$

2. ✖ 1

3. ✔ $\frac{-1+\sqrt{5}}{2}$

4. ✖ -2

Question Number : 8 Question Id : 80089423063 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $\alpha + \beta = \frac{\pi}{2}$ and $\beta + \gamma = \alpha$, then $tan\,\alpha =$

Options :

1. ✖ $2(tan\,\beta + tan\,\gamma)$

2. ✖ $tan\,\beta + tan\,\gamma$

3. ✖ $2\tan\beta+\tan\gamma$

4. ✔ $\tan\beta+2\tan\gamma$

Question Number : 9 Question Id : 80089423064 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In a triangle ABC , $a^2\cos 2B+b^2\cos 2A+2ab\cos(A-B)=$

Options :

1. ✖ a^2

2. ✖ b^2

3. ✔ c^2

4. ✖ $(a+b+c)^2$

Question Number : 10 Question Id : 80089423065 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

$f(x)=Sin^{-1}x+\cos^{-1}x+Tan^{-1}\frac{1}{x}+Tan^{-1}x$ then the area (in square units) bounded by y = f(x), y-axis and the line $2y=\pi(x+1)$ is

Options :

1. ✔ $\frac{\pi}{4}$

2. ✖ $\frac{\pi}{2}$

3. ✖ $\frac{\pi}{3}$

4. ✖ π

Question Number : 11 Question Id : 80089423066 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

$$\left(\frac{1+i}{\sqrt{2}}\right)^8+\left(\frac{1-i}{\sqrt{2}}\right)^8=$$

Options :

1. ✖ 16

2. ✖ 8

3. ✖ 4

4. ✔ 2

Question Number : 12 Question Id : 80089423067 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The maximum value of $|z|$ satisfying the equation $\frac{1}{12}(z+\bar{z})^2=1-\frac{1}{3}|z|^2$ is

Options :

1. ✖ $\sqrt{2}$

2. ✔ $\sqrt{3}$

3. ✖ 4

4. ✖ 6

Question Number : 13 Question Id : 80089423068 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If n is a positive integer, then $(-i)^{4n+3} =$

Options :

1. ✖ $2i$

2. ✖ $-i$

3. ✔ i

4. ✖ $4i$

Question Number : 14 Question Id : 80089423069 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The equation of the line passing through the point $(4, 0)$ and having intercepts in the ratio is $a: b$ is

Options :

1. ✖ $bx + ay = a$

2. ✔ $bx + ay = 4b$

3. ✖ $bx + ay = b$

4. ✖ $bx + ay = 4a$

Question Number : 15 Question Id : 80089423070 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If L_1, L_2 are the angular bisectors of the acute and obtuse angles between the lines $x-y+2=0$ and $7x+y+1=0$ then angle between L_1 and L_2 is

Options :

1. ✖ π

2. ✖ $\frac{\pi}{3}$

3. ✖ $\frac{\pi}{6}$

4. ✔ $\frac{\pi}{2}$

Question Number : 16 Question Id : 80089423071 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The equation of the line parallel to the line $x-2y+5=0$ and passing through the point P(3,5) is

Options :

1. ✖ $x-2y+15=0$

2. ✖ $x-2y+6=0$

3. ✖ $x-2y+8=0$

4. ✔ $x-2y+7=0$

Question Number : 17 Question Id : 80089423072 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The equation of the circle which touches the coordinate axes is

Options :

1. ✖ $x^2+y^2+2gx+2fy+c=0$

2. ✖ $x^2+y^2+2ax+2ay+a^2=0$

3. ✖ $x^2+y^2\pm 2gx\pm 2fy+c=0$

4. ✔ $x^2+y^2\pm 2ax\pm 2ay+a^2=0$

Question Number : 18 Question Id : 80089423073 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $\alpha,\beta(\alpha>\beta)$ are roots of the quadratic equation $4x^2-4x-3=0$, then the equation of the circle with center $\left(\frac{\alpha}{\beta}+\frac{\beta}{\alpha},\frac{\alpha}{\beta}-\frac{\beta}{\alpha}\right)$ and radius $\alpha^2-\beta^2$ is

Options :

1. ✔ $9x^2 + 9y^2 + 60x + 48y + 128 = 0$

2. ✖ $9x^2 + 9y^2 + 60x - 48y - 128 = 0$

3. ✖ $9x^2 + 9y^2 - 60x - 48y + 128 = 0$

4. ✖ $9x^2 + 9y^2 - 60x + 48y - 128 = 0$

Question Number : 19 Question Id : 80089423074 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The equation of the tangent to the circle $x^2 + y^2 = 25$ at the point $P(3,4)$ is

Options :

1. ✖ $4x + 3y - 25 = 0$

2. ✖ $4x + 3y + 25 = 0$

3. ✔ $3x + 4y - 25 = 0$

4. ✖ $3x + 4y - 5 = 0$

Question Number : 20 Question Id : 80089423075 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

For $x^2 - 9 \neq 0$, if $y = \log\left(e^{x/2}\left(\frac{x-3}{x+3}\right)^{4/5}\right)$, then $\frac{dy}{dx}$ at $x = 1$ is equal to

Options :

1. ✖ $\frac{7}{10}$

2. ✖ $\frac{2}{5}$

3. ✔ $\frac{-1}{10}$

4. ✖ $\frac{-1}{5}$

Question Number : 21 Question Id : 80089423076 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

For $f(x) = |x^2 - 3x + 2|$, then sum of the values of $\frac{df}{dx}$ at x= 1.5 and at x = 2.5 is

Options :

1. ✔ 2

2. ✖ 6

3. ✖ 4

4. ✖ 8

Question Number : 22 Question Id : 80089423077 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

$$\frac{d^2}{dx^2}\left(\frac{1}{5x+3}\right)=$$

Options :

1. ✖ $\frac{25}{(5x+3)^3}$

2. ✔ $\frac{50}{(5x+3)^3}$

3. ✖ $\frac{125}{(5x+3)^3}$

4. ✖ $\frac{100}{(5x+3)^3}$

Question Number : 23 Question Id : 80089423078 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The curve represented by $x = t^5 - 5t^3 - 20t + 7, y = 4t^3 - 3t^2 - 18t + 3$ is increasing for all t in the interval

Options :

1. ✖ $(-2,2)$

2. ✔ $\left(-1,\frac{3}{2}\right)$

3. ✖ $\left(\frac{3}{2},2\right)$

4. ✖ (-1,2)

Question Number : 24 Question Id : 80089423079 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The equation of tangent to the curve $y^2 = 4x + 5$ at P(-1,1) is

Options :

1. ✖ $2x - y + 9 = 0$

2. ✖ $2x + y - 7 = 0$

3. ✔ $2x - y + 3 = 0$

4. ✖ $x + 2y + 9 = 0$

Question Number : 25 Question Id : 80089423080 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If at X = a, the maximum value of $(X^5)(16 - X)^{11}$ is K. Then $\frac{K}{a} =$

Options :

1. ✔ $11^{11}5^4$

2. ✖ $6^4 10^{11}$

3. ✖ $11^4 5^{11}$

4. ✖ $10^4 6^{11}$

Question Number : 26 Question Id : 80089423081 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $u(x,y)=\text{Sin}^{-1}\left(\frac{x+y}{\sqrt{x}+\sqrt{y}}\right)$ then $x\frac{\partial u}{\partial x}+y\frac{\partial u}{\partial y}=$

Options :

1. ✖ $\frac{1}{8}\tan u$

2. ✔ $\frac{1}{2}\tan u$

3. ✖ $\frac{1}{4}\tan u$

4. ✖ $\frac{1}{3}\tan u$

Question Number : 27 Question Id : 80089423082 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $\int \frac{2x^{18}+7x^{13}}{(x^7+x^5+1)^3}dx=\frac{x^p}{m(x^7+x^5+1)^n}+c$, then $2p-(m+n)^2=$

Options :

1. ✖ 0

2. ✖ 3

3. ✔ 12

4. ✖ 20

Question Number : 28 Question Id : 80089423083 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $\int \frac{Sin\,2x}{Sin\,5x\,Sin\,3x}dx = A\,log\,Sin\,3\,x + B log\,Sin\,5\,x + C$, then A + B=

Options :

1. ✖ 2/7

2. ✖ 1/3

3. ✖ -2/5

4. ✔ 2/15

Question Number : 29 Question Id : 80089423084 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

$$\int \frac{1}{9x^2-4}dx =$$

Options :

1. ✖

$\frac{1}{3}\log\left|\frac{3x-2}{3x+2}\right|$

2. ✖ $\frac{1}{12}\log\left|\frac{x-2}{x+2}\right|$

3. ✔ $\frac{1}{12}\log\left|\frac{3x-2}{3x+2}\right|$

4. ✖ $\frac{1}{2}\log\left|\frac{3x-2}{3x+2}\right|$

Question Number : 30 Question Id : 80089423085 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

If $I_1 = \int_0^1 a^x dx$, $I_2 = \int_0^1 a^{x^2} dx$ and $I_3 = \int_0^1 a^{x^3} dx$ then

Options :

1. ✔ $I_1 > I_2 > I_3$ when a > 1

2. ✖ $I_1 < I_2 < I_3$, when a > 1

3. ✖ $I_1 > I_2 > I_3$, when 0 < a < 1

4. ✖ $I_1 < I_2 < I_3$ for any a > 0

Question Number : 31 Question Id : 80089423086 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The area (in square units) bounded by the curve $x^2 = 4y$, the x-axis and the line $x = 2$ is

Options :

1. ✖ $\frac{1}{3}$

2. ✔ $\frac{2}{3}$

3. ✖ $\frac{5}{3}$

4. ✖ $\frac{7}{3}$

Question Number : 32 Question Id : 80089423087 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 0

2. ✖ $\frac{1}{2}$

3. ✖ e^2

4. ✔ $log2$

Question Number : 33 Question Id : 80089423088 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Using Trapezoidal rule with $h=\frac{1}{2}$, the value of the integral $\int_0^1 \frac{1}{3+2x}dx=$

Options :

1. ✖ $\frac{11}{120}$

2. ✖ $\frac{21}{120}$

3. ✔ $\frac{31}{120}$

4. ✖ $\frac{41}{120}$

Question Number : 34 Question Id : 80089423089 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The differential equation representing the family of curves $y^2 = 2c(x + \sqrt{c})$ (c is a positive arbitrary Constant) is of

Options :

1. ✖ degree 1

2. ✖ order 2

3. ✔ degree 3

4. ✖ degree 2

Question Number : 35 Question Id : 80089423090 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The general solution of $\frac{dy}{dx} = \frac{x^2+4x-9}{x+2}$ is

Options :

1. ✔ $y = \frac{(x+2)^2}{2} - 13\,log|x+2| + c$

2. ✖ $y = (x+2)^2 - 5\,log|x+2| + c$

3. ✖ $y = \frac{x^2}{2} + 2x + 13\,log|x+2| + c$

4. ✖ $y = \frac{x^2}{2} + 2x - 5\,log|x+2| + c$

Question Number : 36 Question Id : 80089423091 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The general solution of the differential equation $x\frac{dy}{dx} = xe^{-\frac{y}{x}} + y$ is

Options :

1. ✖

1. $e^{\frac{x}{y}} = \log|cx|$

2. ✔ $e^{\frac{y}{x}} = \log|cx|$

3. ✖ $e^{\frac{x^2}{y}} = \log|cx|$

4. ✖ $e^{\frac{x}{y^2}} = \log|cx|$

Question Number : 37 Question Id : 80089423092 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

$\frac{dy}{dx} = \frac{f(x,y)}{g(x,y)}$ is a homogeneous differential equation. The substitution y = Vx (V is a function of x) reduces the given differential equation to $\frac{dV}{dx} = \frac{1}{x}G(V)$. Then G(V)=

Options :

1. ✔ $\frac{f(1,V)}{g(1,V)} - V$

2. ✖ $\frac{f(V)}{g(V)} - V$

3. ✖ $\frac{f(1,V)}{g(1,V)} + V$

4. ✖ $\frac{f(V)}{g(V)} + V$

Question Number : 38 Question Id : 80089423093 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The general solution of the differential equation $\frac{d^2y}{dx^2} + 2\frac{dy}{dx} + y = e^{-x}Sin\ x$ is

Options :

1. ✖ $y = e^{-x}(A + Bx) + \frac{e^{-x}Sin\ x}{5}$

2. ✔ $y = e^{-x}(A + Bx - sinx)$

3. ✖ $y = e^{-x}(A + Bx) + \frac{e^{-x}cos\ x}{5}$

4. ✖ $y = e^{-x}(A + Blogx) + \frac{e^{-x}Sin\ x}{5}$

Question Number : 39 Question Id : 80089423094 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The particular integral of the differential equation $\frac{d^2y}{dx^2} - 2\frac{dy}{dx} + y = xe^x \sin x$ is

Options :

1. ✔ $-e^x(x\sin x + 2\cos x)$

2. ✖ $-e^x(x\cos x + 2\sin x)$

3. ✖ $e^x(x\sin x - 2\cos x)$

4. ✖ $e^x(x\cos x - 2\sin x)$

Question Number : 40 Question Id : 80089423095 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $L\{t^2e^{-2t}\} = f(s)$, then $f(4) =$

Options :

1. ✖ $\frac{1}{54}$

2. ✖ $\frac{1}{27}$

3. ✔ $\frac{1}{108}$

4. ✖ $\frac{1}{216}$

Question Number : 41 Question Id : 80089423096 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $L[f(t)] = \frac{9s^2-12s+15}{(s-1)^3}$, then $L\left[f\left(\frac{t}{3}\right)\right] =$

Options :

1. ✔ $9\left[\frac{27s^2-36s+5}{(3s-1)^3}\right]$

2. ✖ $9\left[\frac{s^2-4s+15}{(s-3)^3}\right]$

3. ✖ $3\left[\frac{27s^2-12s+5}{(3s-1)^3}\right]$

4. ✖ $27\left[\frac{s^2-4s+15}{(s-3)^3}\right]$

Question Number : 42 Question Id : 80089423097 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

$$\int_0^\infty \frac{e^{-5t}-e^{-8t}}{t}dt =$$

Options :

1. ✖ $\log\left(\frac{4}{5}\right)$

2. ✖ $\log\left(\frac{2}{5}\right)$

3. ✔ $\log\left(\frac{8}{5}\right)$

4. ✖ $\log\left(\frac{7}{5}\right)$

Question Number : 43 Question Id : 80089423098 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $F_a(s)$= L (sin at) then, $\mathrm{L}\left(\frac{e^{-3t}\sin 2t}{t}\right)$ =

Options :

1. ✖ $\int_s^\infty F_2(s)ds$

2. ✔ $\int_s^\infty F_2(s+3)ds$

3. ✖ $\int_s^\infty \frac{d}{ds}(F_2(s))ds$

4. ✖ $-\int_s^\infty \frac{d}{ds}(F_2(s-3))ds$

Question Number : 44 Question Id : 80089423099 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

$L^{-1}\left\{\frac{6s}{s^2+2s-8}\right\}$

Options :

1. ✖ $4e^{-4t}+2e^{-2t}$

2. ✖ $4e^{4t}+2e^{-2t}$

3. ✖ $4e^{4t}+2e^{2t}$

4. ✔ $4e^{-4t}+2e^{2t}$

Question Number : 45 Question Id : 80089423100 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $L(f(t)) = F(S)$, $L(g(t)) = G(s)$, then $L^{-1}(F(s)\,G(s)) =$

Options :

1. ✔ $\int_0^t f(p)g(t-p)\,dp$

2. ✖ $\int_0^t f(t)g(t)\,dt$

3. ✖ $\int_0^t f(t)g(t-p)\,dp$

4. ✖ $\int_0^t f(tp)g(t/p)\,dt$

Question Number : 46 Question Id : 80089423101 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $y = y(t)$ satisfies the differential equation $\frac{d^2y}{dt^2} - 2\frac{dy}{dt} + y = e^t$ together with the conditions $y(0) = 2, \frac{dy}{dt} = -1$ at $t = 0$, then $y(t) =$

Options :

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

2. ✔ $e^t\left(2 - 3t + \frac{1}{2}t^2\right)$

3. ✖ $e^t\left(2 - 3t - \frac{1}{2}t^2\right)$

4. ✖ $e^t\left(2 + 3t - \frac{1}{2}t^2\right)$

Question Number : 47 Question Id : 80089423102 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

$$\int_0^{2\pi} \cos^2(5x)dx =$$

Options :

1. ✔ π

2. ✖ 2π

3. ✖ 4π

4. ✖ 5π

Question Number : 48 Question Id : 80089423103 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The Fourier series of $x-x^2$ in the interval $(-\pi, \pi)$ contains

Options :

1. ✖ only sine terms

2. ✖ onlycosine terms

3. ✔ both sine and cosine terms

negative integral powers of x, but not trigonometric functions

4. ✖

Question Number : 49 Question Id : 80089423104 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $f(x) = x^3$ when $0 \le x \le 4.f(x+4) = f(x), \forall x$ and its Fourier series is $f(x) = \sum_{n=0}^{\infty}(a_n \cos\frac{n\pi x}{2} + b_n \sin\frac{n\pi x}{2})$, then $b_1 =$

Options :

1. ✖ $\frac{128}{\pi^2} + \frac{192}{\pi^4}$

2. ✖ $\frac{128}{\pi^2}$

3. ✖ $\frac{192}{\pi^2} + \frac{192}{\pi^4}$

4. ✔ $\frac{96}{\pi^3} - \frac{128}{\pi}$

Question Number : 50 Question Id : 80089423105 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $f(x) = \begin{cases} 0, & -2 \le x < 0 \\ 1, & 0 \le x < 2 \end{cases}, f(x+4) = f(x)\ \forall x$ and $f(x) = \sum_{n=0}^{\infty}(a_n \cos\frac{n\pi x}{2} + b_n \sin\frac{n\pi x}{2})$, then $b_2 =$

Options :

1. ✖ $\frac{2}{\pi}$

2. ✖ $\frac{4}{\pi}$

3. ✖ $\frac{3}{\pi}$

4. ✔ 0

Physics

Section Id :	800894451
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
Sub-Section Number :	1
Sub-Section Id :	800894517
Question Shuffling Allowed :	Yes

Question Number : 51 Question Id : 80089423106 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The Dimensional formula of potential energy is

Options :

1. ✖ MLT^{-2}

2. ✔ ML^2T^{-2}

3. ✖ ML^2T^{-1}

4. ✖ MLT^{-1}

Question Number : 52 Question Id : 80089423107 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In case of a superconductor one among the following statement is incorrect

Options :

1. ✖ The resistivity drops suddenly at transition temperature

2. ✔ It is paramagnetic below it's transition temperature

3. ✖ Specific heat discontinuity occurs at transition temperature

4. ✖ It will become diamagnetic below it's transition temperature

Question Number : 53 Question Id : 80089423108 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following statements is true regarding super conductors?

Options :

1. ✖ super conductors have high resistance at very low temperatures, and they are perfectly diamagnetic

2. ✖ super conductors have high resistance at very low temperatures, and they are perfectly ferro magnetic

3. ✖ super conductors have zero resistance at very low temperatures, and they are perfectly para magnetic

4. ✔ super conductors have zero resistance at very low temperatures, and they are perfectly dia magnetic

Question Number : 54 Question Id : 80089423109 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If the temperature remains constant the volume of the gas will

Options :

1. ✔ Increase with decrease in pressure

2. ✖ Decrease with decrease in pressure

3. ✖ Not change with change in pressure

4. ✖ Increase with increase in pressure

Question Number : 55 Question Id : 80089423110 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A gas at a pressure of 150 Nm^{-2} is compressed to half its original volume. If the expansion is isothermal, the final

pressure will be

Options :

1. ✖

100 Nm^{-2}

2. ✖ 150 Nm^{-2}

3. ✖ 200 Nm^{-2}

4. ✔ 300 Nm^{-2}

Question Number : 56 Question Id : 80089423111 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The first law of thermodynamics is the law of

Options :

1. ✖ Conservation of mass

2. ✖ Conservation of momentum

3. ✔ Conservation of energy

4. ✖ Conservation of temperature

Question Number : 57 Question Id : 80089423112 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Two equal vectors have a resultant equal to either. The angle between them will be

Options :

1. ✖ 30°

2. ✖ 90°

3. ✔ 120°

4. ✖ 180°

Question Number : 58 Question Id : 80089423113 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The vectors $\vec{A}$ *and* $\vec{B}$ are such that if $|\vec{A}+\vec{B}|=|\vec{A}-\vec{B}|$ then the angle between $\vec{A}$ *and* $\vec{B}$ will be

Options :

1. ✔ 90°

2. ✖ 0°

3. ✖ 180°

4. ✖ $\cos\theta$

Question Number : 59 Question Id : 80089423114 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The value of λ for which the two vectors:

$3\hat{\imath}-\hat{\jmath}+\hat{k}$ and $2\hat{\imath}+\lambda\hat{\jmath}+2\hat{k}$ are perpendicular is

Options :

1. ✖ -8

2. ✔ 8

3. ✖ 4

4. ✖ 2

Question Number : 60 Question Id : 80089423115 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In case of an oblique projection, which statement is true with regard to its velocity components?

Options :

1. ✖ Vertical and horizontal components change

2. ✖ Vertical and horizontal components do not change

3. ✔ Vertical component changes but horizontal component remains constant

4. ✖ Vertical component remains constant but horizontal component changes

Question Number : 61 Question Id : 80089423116 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

An insect can jump a maximum horizontal distance of 20 cm. If it spends negligible time on the ground,

with what speed can it travel along the road.

Options :

1. ✖ 0.1 m/s

2. ✔ 1.0 m/s

3. ✖ 0.14 m/s

4. ✖ 1.4 m/s

Question Number : 62 Question Id : 80089423117 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

A person holds a book weighing 1 kg between his hands and keeps it from falling by pressing his hands together. If the minimum force exerted by each hand horizontally is 49 N, what will be the coefficient of friction between the book and his hands

Options :

1. ✖ 1

2. ✖ 10

3. ✔ 0.1

4. ✖ 0.01

Question Number : 63 Question Id : 80089423118 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

A ball rolled on ice with a velocity of 8 ms^{-1} comes to rest after travelling 40 m. If the value of g = 9.8 ms^{-2}, the coefficient of friction is

Options :

1. ✖ 0.328

2. ✔ 0.0816

3. ✖ 0.0416

4. ✖ 0.258

Question Number : 64 Question Id : 80089423119 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Which one of the following is not the unit of energy?

Options :

1. ✔ Kilowatt

2. ✖ Kilowatt hour

3. ✖ Joule

4. ✖ Newton meter

Question Number : 65 Question Id : 80089423120 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The principle of conservation of energy states that

Options :

1. ✔ Sum of all types of energies is conserved

2. ✖ Total mechanical energy is conserved

3. ✖ Total kinetic energy is conserved

4. ✖ Total potential energy is conserved

Question Number : 66 Question Id : 80089423121 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

For a body moving with simple harmonic motion, the number of cycles per second, is known as its

Options :

1. ✖ Oscillation

2. ✖ Amplitude

3. ✖ Periodic time

4. ✔ Frequency

Question Number : 67 Question Id : 80089423122 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The acceleration of particle executing S.H.M. when it is at mean position is

Options :

1. ✖ Infinite

2. ✔ Zero

3. ✖ Maximum

4. ✖ Unity

Question Number : 68 Question Id : 80089423123 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

If the length of a simple pendulum executing simple harmonic motion is increased by 69% then the percentage increases in the time period of the simple pendulum of increased length will be

Options :

1. ✔ 30 %

2. ✖ 330 %

3. ✖ 3.0 %

4. ✖ 33 %

Question Number : 69 Question Id : 80089423124 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The longitudinal waves can not

Options :

1. ✖ Have a unique wave velocity

2. ✔ Be polarized

3. ✖ Have a unique wavelength

4. ✖ Transmit energy

Question Number : 70 Question Id : 80089423125 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

A cinema hall has a volume of 2800 m^3 and total surface absorption is 225 O.W.U. The reverberation time will be

Options :

1. ✖ 1.90 s

2. ✔ 1.99 s

3. ✖ 2.25 s

4. ✖ 2.40 s

Question Number : 71 Question Id : 80089423126 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Stress is

Options :

1. ✖ External force

2. ✔ Internal resistive force

3. ✖ Axial force

4. ✖ Radial force

Question Number : 72 Question Id : 80089423127 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following statements is false?

Options :

1. ✔ Viscosity is independent of the surface area of liquid layers in contact

2. ✖ Viscosity of a fluid changes with temperature

3. ✖ The dimensions of viscosity is same as that of the product of pressure and time

4. ✖ The viscous force is directed opposite to the direction of motion of liquid

Question Number : 73 Question Id : 80089423128 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A wire having uniform diameter (d) and length (l) has a resistance R. Another wire having same material but having diameter 2d and length 4l, then it's resistance will be

Options :

1. ✔ R

2. ✖ R/2

3. ✖ R/4

4. ✖ 2R

Question Number : 74 Question Id : 80089423129 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

In a meter bridge experiment, the ratio of the left gap resistance to right gap resistance is 2:3. The balance point from left is

Options :

1. ✔ 40 cm

2. ✖ 45 cm

3. ✖ 60 cm

4. ✖ 65 cm

Question Number : 75 Question Id : 80089423130 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A magnet when placed at right angles to the earth's horizontal magnetic induction 2×10^{-5} Wb/m^2 experiences a couple of 2×10^{-5} Nm. Then, the magnetic moment of magnet is

Options :

1. ✔ $1\ Am^2$

2. ✖ $1.5\ Am^2$

3. ✖ $5\ Am^2$

4. ✖ $7.5\ Am^2$

Chemistry

Section Id :	800894452
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
Sub-Section Number :	1
Sub-Section Id :	800894518
Question Shuffling Allowed :	Yes

Question Number : 76 Question Id : 80089423131 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

When an electron drops from 4s orbital to 2s orbital in an hydrogen atom, the frequency of radiation emitted belong to which region (Rydberg constant = 1.097 x10^7 m^{-1})

Options :

1. ✖ Ultraviolet region

2. ✔ Visible region

3. ✖ Infrared region

4. ✖ Microwave region

Question Number : 77 Question Id : 80089423132 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is true about ionic compounds?

Options :

1. ✖ Ionic compounds conduct electricity when dissolved in water

2. ✖ Ionic compounds are not soluble in water.

3. ✖ Ionic compounds are crystalline solids.

4. ✔ Ionic compounds conduct electricity when dissolved in water & Ionic compounds are crystalline solids.

Question Number : 78 Question Id : 80089423133 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Oxidation state of Fe in Fe_3O_4 is

Options :

1. ✔ $8/3$

2. ✖ $3/8$

3. ✖ $3/2$

4. ✖ $-3/8$

Question Number : 79 Question Id : 80089423134 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In a sample of salt water, NaCl would be considered as?

Options :

1. ✖ Solution

2. ✔ Solute

3. ✖ Solvent

4. ✖ Solvation

Question Number : 80 Question Id : 80089423135 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

30 mL of 0.1 m Mohr's salt solution is titrated in acid medium against 0.1M $K_2Cr_2O_7$ solution taken in the burette. The volume of $K_2Cr_2O_7$ solution required at the end point after the addition of suitable indicator is

Options :

1. ✖ 30 mL

2. ✔ 5 mL

3. ✖ 10 mL

4. ✖ 15 mL

Question Number : 81 Question Id : 80089423136 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What volume of 12.6 M HCl must be added to enough water to prepare 5.00 liters of 3.00M HCl?

Options :

1. ✖ 21.0 L

2. ✖ 0.840 L

3. ✔ 1.19 L

4. ✖ 7.56 L

Question Number : 82 Question Id : 80089423137 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the correct statement from given options below for the equilibrium reaction

$HClO_4 + H_2O \leftrightarrow H_3O^+ + ClO_4^-$

Options :

1. ✖ $HClO_4$ is the conjugate acid of H_2O

2. ✖ H_3O^+ is the conjugate base of H_2O

3. ✖ H_2O is the conjugate acid of H_3O^+

4. ✔ ClO_4^- is the conjugate base of $HClO_4$

Question Number : 83 Question Id : 80089423138 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Three unknown solutions are given with pH value of 6, 8 & 9.5 respectively. Which solution will contain the maximum OH^- ion?

Options :

1. ✖ Solution sample-1

2. ✖ Solution sample-2

3. ✔ Solution sample-3

4. ✖ Data are insufficient

Question Number : 84 Question Id : 80089423139 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

An example of acidic buffer solution is a mixture of

Options :

1. ✖ NH_4OH, NH_4Cl

2. ✖ HCl, NaCl

3. ✖ CH_3COOH, NH_4OH

4. ✔ CH_3COOH, CH_3COONa

Question Number : 85 Question Id : 80089423140 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A mineral is called an ore if?

Options :

1. ✖ Metal present in mineral is precious

2. ✔ Metal can be extracted profitably from mineral

3. ✖ Metal cannot be extracted

4. ✖ metal has good malleability

Question Number : 86 Question Id : 80089423141 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Concentration of sulphide ore will be done by

Options :

1. ✔ Froath floatation

2. ✖ Roasting

3. ✖ Sedimentation

4. ✖ Smelting

Question Number : 87 Question Id : 80089423142 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

One of the following will be occurred at the anode, during the electrolysis of fused NaCl.

Options :

1. ✖ Na^- gets reduced

2. ✔ Cl^- gets oxidized

3. ✖ Na^- gets oxidized

4. ✖ Na^+ gets oxidized

Question Number : 88 Question Id : 80089423143 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Electrolysis of dilute aqueous NaCl solution was carried out by passing 10 milliampere current. The time required to liberate 0.01 mol of H_2 gas at the cathode is?

Options :

1. ✖ 9.65×10^4 s

2. ✖ 28.95×10^4 s

3. ✔ 19.3×10^4 s

4. ✖ 38.6×10^4 s

Question Number : 89 Question Id : 80089423144 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Standard reduction potential value of saturated calomel electrode is

Options :

1. ✖ + 0.268

2. ✖ + 0.6994

3. ✖ + 0.0242

4. ✔ + 0.2415

Question Number : 90 Question Id : 80089423145 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In the protection of Iron structure by sacrificial anode method , the metal used as anode

Options :

1. ✖ Silver

2. ✖ Zinc

3. ✔ Magnesium

4. ✖ Lead

Question Number : 91 Question Id : 80089423146 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In electrolytic conductors, the conductance is due to

Options :

1. ✖ Free movement of electrons

2. ✖ Restricted movement of electrons

3. ✖ Restricted movement of ions

4. ✔ Free movement of ions

Question Number : 92 Question Id : 80089423147 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the incorrect statement from the following options.

Options :

1. ✖ In hard water, the detergent values of soap are decreased

2. ✔ In the presence of dissolved hardness producing salts, the boiling point of water is decreased

3. ✖ The water which does not form lather with soap is called hard water

4. ✖ The hard water consists of calcium and magnesium salts in dissolved state

Question Number : 93 Question Id : 80089423148 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In high pressure boilers, scale formation can be avoided by adding

Options :

1. ✖ Na_2CO_3

2. ✔ Sodium phosphate

3. ✖ NaOH

4. ✖ Sodium meta Aluminate

Question Number : 94 Question Id : 80089423149 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The basis of reverse osmosis is

Options :

1. ✖ Osmotic pressure is greater than the hydrostatic pressure

2. ✖ Osmotic pressure is equal to the hydrostatic pressure

3. ✔ Hydrostatic pressure is greater than the osmotic pressure

4. ✖ Osmotic pressure does not exist

Question Number : 95 Question Id : 80089423150 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A thermoplastic is formed by the phenomenon of

Options :

1. ✔ Chain polymerization

2. ✖ Condensation polymerization

3. ✖ Chlorination

4. ✖ Nitration

Question Number : 96 Question Id : 80089423151 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Natural rubber is a polymer of?

Options :

1. ✖ 1, 1-Dimethylbutadiene

2. ✔ 2-Methyl-1, 3-butadiene

3. ✖ 2-Chlorobuta-1,3-diene

4. ✖ 2-Chlorobut-2-ene

Question Number : 97 Question Id : 80089423152 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Identify the correct statement from the following

Options :

1. ✖ A good fuel should undergo spontaneous combustion

2. ✖ A good fuel should have high moisture content

3. ✔ A good fuel should have high calorific value

4. ✖ A good fuel should have high content of non-combustible matter

Question Number : 98 Question Id : 80089423153 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Laboratory gas is obtained by cracking

Options :

1. ✖ Coal

2. ✖ Diesel oil

3. ✖ Petrol

4. ✔ Kerosene oil

Question Number : 99 Question Id : 80089423154 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In sewage when the concentration of decomposable organic matter is large, then

Options :

1. ✔ BOD value is high

2. ✔ COD value is high

3. ✖ BOD value is low

4. ✖ COD value is low

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

Question Number : 100 Question Id : 80089423155 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

From the following options given below, what is the major non-renewable energy usage in India ?

Options :

1. ✔ Coal

2. ✖ Petroleum and other liquids

3. ✖ Natural gas

4. ✖ Nuclear

Metallurgical Engineering

Section Id :	800894453
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
Sub-Section Number :	1
Sub-Section Id :	800894519
Question Shuffling Allowed :	Yes

Question Number : 101 Question Id : 80089423156 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Very high rotation velocities during horizontal ball mill operation would result in

Options :

1. ✖ High wear of the balls

2. ✖ High milling efficiency due to ball impact

3. ✔ No milling due to centrifugal forces

4. ✖ Production of excess fines

Question Number : 102 Question Id : 80089423157 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Which of the following is sizing device ?

Options :

1. ✖ Telsmith crusher

2. ✖ Toothed roll crusher

3. ✖ Tabling

4. ✔ Trommels

Question Number : 103 Question Id : 80089423158 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Titanium (Ti) metal is extracted by

Options :

1. ✖ electrolysis of fused salt

2. ✖ roasting followed by carbothermic reduction

3. ✔ halide process

4. ✖ roasting followed by controlled oxidation

Question Number : 104 Question Id : 80089423159 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Liquid Magnesium is used for the extraction of the following metal

Options :

1. ✖ Fe

2. ✔ Ti

3. ✖ Mn

4. ✖ Pb

Question Number : 105 Question Id : 80089423160 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Anglesite contains _____

Options :

1. ✖ Zinc

2. ✖ Copper

3. ✖ Uranium

4. ✔ Lead

Question Number : 106 Question Id : 80089423161 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Heating of coal with insufficiently less quantity air and steam to produce CO and H_2 is called as

Options :

1. ✔ gasification

2. ✖ coalification

3. ✖ run-of-mine

4. ✖ carbonization

Question Number : 107 Question Id : 80089423162 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Hot coke from the coke ovens is quenched to cool using

Options :

1. ✔ N_2 Gas

2. ✖ CO_2 Gas

3. ✖ Ar Gas

4. ✖ Blast furnace Gas

Question Number : 108 Question Id : 80089423163 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Calculate the calorific value of a gas of given composition CO is 0.20% and H_2 0.05% by volume. The calorific values of CO and H_2 are 3040 kcal/Nm^3 and 2590 kcal/Nm^3 respectively.

Options :

1. ✖ 670 kcal/Nm^3

2. ✖ 67 kcal/Nm^3

3. ✔ 737.5 kcal/Nm^3

4. ✖ 73.75 kcal/Nm^3

Question Number : 109 Question Id : 80089423164 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

IR pyrometers are very advantageous to measure temperatures of …….. and above

Options :

1. ✖ 250 °C

2. ✖ -200 °C

3. ✖ 450 °C

4. ✔ 1300 °C

Question Number : 110 Question Id : 80089423165 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The advantage of the electrical heating furnaces over the oil fired furnaces for heat treatment is

Options :

1. ✔ Clean Furnace atmosphere

2. ✖ Low cost of heating

3. ✖ Suitable for large volume furnaces

4. ✖ Better stress relieving

Question Number : 111 Question Id : 80089423166 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Ellingham diagrams for the formation of metal oxides are plotted

Options :

1. ✖ ΔG°versus $1/T$

2. ✖ ΔG°versus $1/T^2$

3. ✖ ΔG°versus $1/T^{0.}$

4. ✔ ΔG°versus T

Question Number : 112 Question Id : 80089423167 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In a cyclic process an ideal monoatomic gas does work of 200J. The heat absorbed by gas is _____

Options :

1. ✖ 100 J

2. ✔ 200 J

3. ✖ 400 J

4. ✖ -400 J

Question Number : 113 Question Id : 80089423168 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The following statement is true in case of entropy changes of Isolated systems

Options :

1. ✔ $(dS)_{system} = 0$ for reversible process

2. ✖ $(dS)_{system} > 0$ for reversible process

3. ✖ $(dS)_{system} = 0$ for irreversible process

4. ✖ $(dS)_{system} < 0$ for irreversible process

Question Number : 114 Question Id : 80089423169 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

$S_2(g) + 2O_2(g) = 2SO_2(g)$

The equilibrium constant expression (K) for the above equation is:

Options :

1. ✖ $[SO_2]^2/[S_2]$

2. ✔ $[SO_2]^2/[S_2][O_2]^2$

3. ✖ $[S_2][O_2]/[SO_2]^2$

4. ✖

$[SO_2][O_2]$

Question Number : 115 Question Id : 80089423170 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

A reaction is feasible when the following condition is met

Options :

1. ✖ $\Delta G \leq 0$ or $K \leq 1$

2. ✔ $\Delta G \leq 0$ or $K \geq 1$

3. ✖ $\Delta G \leq 0$ or $K = 0$

4. ✖ $\Delta G = 0$ or $K = 0$

Question Number : 116 Question Id : 80089423171 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The atomic diameter of an FCC crystal (having lattice parameter 'a') is

Options :

1. ✔ $a/\sqrt{2}$

2. ✖ $a/2\sqrt{2}$

3. ✖ $a\sqrt{3}/4$

4. ✖ a/2

Question Number : 117 Question Id : 80089423172 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Binary thermal equilibrium diagrams give information between _____ of the phases.

Options :

1. ✔ Temperature and composition

2. ✖ Temperature and pressure

3. ✖ Temperature and time

4. ✖ Temperature and stress

Question Number : 118 Question Id : 80089423173 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Cored structure in binary phase diagrams is due to _____

Options :

1. ✖ High pressure

2. ✖ High diffusion rates

3. ✖

Slow cooling conditions

4. ✔ Non-equilibrium conditions

Question Number : 119 Question Id : 80089423174 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The following eutectic mixture is called as Ledeburite

Options :

1. ✔ Austenite and cementite

2. ✖ Ferrite and cementite

3. ✖ Pearlite and cementite

4. ✖ Delta ferrite and austenite

Question Number : 120 Question Id : 80089423175 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The peritectic reaction in Fe - Fe_3C phase diagram is given by _____

Options :

1. ✖ $L = \alpha + Fe_3C$

2. ✖ $\alpha = L + \beta$

3. ✖ $\delta = \alpha + Fe_3C$

4. ✔ $L + \delta = \gamma$

Question Number : 121 Question Id : 80089423176 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Muntz metal is an alloy of

Options :

1. ✔ Cu & Zn

2. ✖ Cu & Sn

3. ✖ Cu & Al

4. ✖ Cu & Ni

Question Number : 122 Question Id : 80089423177 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The binary alloy system that shows complete solid solubility is

Options :

1. ✖ Cu-Zn

2. ✖ Cu-Sn

3. ✖ Pb-Sn

4. ✔ Cu-Ni

Question Number : 123 Question Id : 80089423178 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The following alloy is not suitable for precipitation hardening treatment

Options :

1. ✖ Al - 1.8wt.%Cu

2. ✖ Cu -1 wt.%Be

3. ✖ Mg- 5wt.%Zn

4. ✔ Cu - 5wt.%Ni

Question Number : 124 Question Id : 80089423179 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

State the number of grains per square inch at a magnification of 100x, for ASTM grain size number 10

Options :

1. ✖ 1024

2. ✖ 200

3. ✔ 512

4. ✖ 2048

Question Number : 125 Question Id : 80089423180 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The resolution of an optical microscope is _____

Options :

1. ✖ 1 nm

2. ✔ 1 µm

3. ✖ 1 mm

4. ✖ 1 cm

Question Number : 126 Question Id : 80089423181 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which type of microscopic technique has been developed that generate topographical maps representing the

surface features and characteristics of the specimen?

Options :

1. ✖ Optical microscope

2. ✖ Inverted/Acoustic polarizing microscope

3. ✖ Transmission electron microscope

4. ✔ Scanning probe microscope

Question Number : 127 Question Id : 80089423182 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Prolonged annealing of steel results in

Options :

1. ✖ Decrease in ductility

2. ✖ Increase in strength

3. ✖ High hardness

4. ✔ Grain growth

Question Number : 128 Question Id : 80089423183 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Machinability and ductility of high carbon steels and alloy steels are improved by _____ process.

Options :

1. ✖ Full annealing

2. ✖ Partial annealing

3. ✖ Process annealing

4. ✔ Spheroidizing

Question Number : 129 Question Id : 80089423184 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Hardenability of steels is determined most conveniently by _____

Options :

1. ✖ Fracture test

2. ✔ Jominy-end quench test

3. ✖ Estimation of chemical composition

4. ✖ Grossman's critical diameter method

Question Number : 130 Question Id : 80089423185 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

During quenching of steels there could be a mechanism like _____

Options :

1. ✔ Vacancy diffusion

2. ✖ Vacancy formation

3. ✖ Grain diffusion

4. ✖ Grain boundary diffusion

Question Number : 131 Question Id : 80089423186 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Hadfield manganese steel is used in the manufacture of

Options :

1. ✔ Railway tracks

2. ✖ Springs

3. ✖ Tools

4. ✖ Bearings

Question Number : 132 Question Id : 80089423187 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Case carburizing is the most widely used technique for case hardening of steel parts with

Options :

1. ✔ Low carbon content

2. ✖ High carbon content

3. ✖ High hardness

4. ✖ High corrosion resistance

Question Number : 133 Question Id : 80089423188 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In which process, a white layer of Fe_3N and Fe_2N form on the outer layer of surface which is very brittle and tends to crack?

Options :

1. ✖ Carbonitriding

2. ✖ Cyaniding

3. ✔ Nitriding

4. ✖ Plasma nitriding

Question Number : 134 Question Id : 80089423189 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The following heat treatment is used to produce bainite in some of the steels

Options :

1. ✖ Martempering

2. ✔ Austempering

3. ✖ Normalizing

4. ✖ Spheroidizing annealing

Question Number : 135 Question Id : 80089423190 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

To overcome stress corrosion cracking of brass, the following heat treatment is given

Options :

1. ✖ Tempering

2. ✖ Thermo-mechanical treatment

3. ✔ Annealing

4. ✖ Normalizing

Question Number : 136 Question Id : 80089423191 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In Al - Cu alloys, the θ" is _____ with matrix.

Options :

1. ✔ Fully coherent

2. ✖ Semi coherent

3. ✖ Non-coherent

4. ✖ Incoherent

Question Number : 137 Question Id : 80089423192 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Carburizing of steels is carried out at

Options :

1. ✔ 920 – 950 °C

2. ✖ 1000 – 1140 °C

3. ✖ 700 – 730 °C

4. ✖ 820 – 850 °C

Question Number : 138 Question Id : 80089423193 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Blending of iron ores are carried out when the ores are obtained

Options :

1. ✖ From surface mining

2. ✖ From underground mining

3. ✔ From different sources

4. ✖ From blasting of mountains

Question Number : 139 Question Id : 80089423194 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The permeability of burden in an ironmaking blast furnace can be improved by using

Options :

1. ✖ Fine charge

2. ✔ Agglomerated charge

3. ✖ Oxygen enriched air blast

4. ✖ Pulverized coal injection through the tuyeres

Question Number : 140 Question Id : 80089423195 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Blast furnace stoves are used for preheating of _____

Options :

1. ✖ Gas

2. ✔ Air

3. ✖ Iron ore

4. ✖ Refractories

Question Number : 141 Question Id : 80089423196 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Which one of the following type of the reactor is used in Dwight-Lloyd sintering?

Options :

1. ✖ Fluidized bed reactor

2. ✖ Retort

3. ✖ Penumatic reactor

4. ✔ Travelling grate reactor

Question Number : 142 Question Id : 80089423197 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The main application of ferro chrome (Fe-Cr) is as a _____

Options :

1. ✔ Raw material for stainless steel production

2. ✖ Raw material for carbon refractory manufacturing

3. ✖ Deoxidizer

4. ✖ Degassifier

Question Number : 143 Question Id : 80089423198 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

…….. process is performed for inclusion modification in ladle metallurgy of steel making

Options :

1. ✖ Oxygen top blowing

2. ✖ Oxygen bottom blowing

3. ✖ Aluminium wire injection

4. ✔ Calcium wire injection

Question Number : 144 Question Id : 80089423199 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The steel making furnace lined with silica bricks is

Options :

1. ✖ Basic Bessemer process

2. ✔ Acid Bessemer process

3. ✖ Duplex Process

4. ✖ LD Process

Question Number : 145 Question Id : 80089423200 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Portion wise degassing occurs in _____ process.

Options :

1. ✖ R-H

2. ✔ D-H

3. ✖ ESR

4. ✖ VAR

Question Number : 146 Question Id : 80089423201 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Rimmed steels are used for

Options :

1. ✖ structures

2. ✖ wires

3. ✔ flats

4. ✖ rods

Question Number : 147 Question Id : 80089423202 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The following constituent is used during the continuous casting to prevent the metal sticking to the mold and also

to trap slag particles in the hot metal.

Options :

1. ✖ Water

2. ✔ Synthetic Slag

3. ✖ Oil

4. ✖ Grease

Question Number : 148 Question Id : 80089423203 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which one of the following factors is not desirable for effective phosphorus removal in BOF steel making process?

Options :

1. ✔ Higher temperature

2. ✖ Lower temperature

3. ✖ Higher basicity

4. ✖ Higher FeO level in slag

Question Number : 149 Question Id : 80089423204 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Exchange reaction will occur between oxides and sulphates of copper and iron sulphide in _____

Options :

1. ✖ Calcination furnace

2. ✖ Floatation cell

3. ✔ Smelting furnace

4. ✖ Electrolytic cell

Question Number : 150 Question Id : 80089423205 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A conventional copper converter is blown from

Options :

1. ✖ Top

2. ✖ Bottom

3. ✔ Side

4. ✖ Top and bottom

Question Number : 151 Question Id : 80089423206 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Following chemical is used for the digestion of bauxite ore in the Bayer's process

Options :

1. ✖ H_2SO_4

2. ✔ $NaOH$

3. ✖ NH_3

4. ✖ HNO_3

Question Number : 152 Question Id : 80089423207 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In the refining of lead, Harris process is used for

Options :

1. ✖ Desilverising

2. ✖ Dezincing

3. ✖ Decopperising

4. ✔ Softening

Question Number : 153 Question Id : 80089423208 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Spelter is a _____

Options :

1. ✔ Zinc product

2. ✖ Copper product

3. ✖ Cadmium product

4. ✖ Silver product

Question Number : 154 Question Id : 80089423209 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Following metals are electro-won by fused salt electrolysis

Options :

1. ✔ Magnesium

2. ✖ Zinc

3. ✖ Tin

4. ✖ Copper

Question Number : 155 Question Id : 80089423210 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Thermal reduction of MgO is carriedout using

Options :

1. ✖ Al

2. ✔ Si

3. ✖ C

4. ✖ H_2

Question Number : 156 Question Id : 80089423211 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Precipitation of magnesium hydroxide from the saline solution containing Mg^{2+} ions is achieved by adding

Options :

1. ✔ CaO

2. ✖ MgO

3. ✖ Al_2O_3

4. ✖ FeO

Question Number : 157 Question Id : 80089423212 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In Kroll's process, Mg reduces _____

Options :

1. ✖ TiO_2

2. ✔ $TiCl_4$

3. ✖ TiC

4. ✖ TiN

Question Number : 158 Question Id : 80089423213 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Monazite deposits constitute an important source for

Options :

1. ✖ Titanium

2. ✔ Thorium

3. ✖ Molybdenum

4. ✖ Niobium

Question Number : 159 Question Id : 80089423214 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Common impurity metal present in commercial zirconium metal is

Options :

1. ✖ Titanium

2. ✔ Hafnium

3. ✖ Iron

4. ✖ Magnesium

Question Number : 160 Question Id : 80089423215 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The yield stress increases rapidly in BCC metals

Options :

1. ✖ With the increase of temperature

2. ✔ With the decrease of temperature

3. ✖ With no effect of temperature

4. ✖ With fixed temperature

Question Number : 161 Question Id : 80089423216 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In a tensile test of a ductile material, necking starts at

Options :

1. ✖ Lower yield stress

2. ✖ Upper yield stress

3. ✔ Ultimate tensile strength

4. ✖ Just before fracture

Question Number : 162 Question Id : 80089423217 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A test used to determine the behaviour of materials when subjected to high rates of loading, is known as

Options :

1. ✖ Hardness test

2. ✔ Impact test

3. ✖ Fatigue test

4. ✖ Torsion test

Question Number : 163 Question Id : 80089423218 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Fatigue strength of a steel can increased by

Options :

1. ✖ Increasing tensile surface residual stresses

2. ✖ Increasing the grain size

3. ✔ Increasing compressive surface residual stresses

4. ✖ Increasing the specimen size

Question Number : 164 Question Id : 80089423219 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The fatigue life is higher for

Options :

1. ✔ Materials which are highly polished

2. ✖ Materials which have scratches

3. ✖ Materials which have roughness

4. ✖ Materials which have tensile residual stresses

Question Number : 165 Question Id : 80089423220 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The steady state creep is also referred as

Options :

1. ✖ Transient creep

2. ✖ Accelerating creep

3. ✖ Tertiary creep

4. ✔ Viscous creep

Question Number : 166 Question Id : 80089423221 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which test is commonly used for finding surface defects for all types of metals and alloys

Options :

1. ✖ Magnaflux test

2. ✖ Eddy current test

3. ✔ Dye-penetrant test

4. ✖ Magnetic particle

Question Number : 167 Question Id : 80089423222 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The ability of a fluid to spread over a surface and penetrate the surface depends on the factors except

Options :

1. ✔ Pressure

2. ✖ Surface tension

3. ✖ Viscosity

4. ✖ Capillary action

Question Number : 168 Question Id : 80089423223 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In magnetic particle inspection test, ------ property is very important

Options :

1. ✖ Conductivity

2. ✖ Eddy current

3. ✔ Magnetic

4. ✖ Dielectric

Question Number : 169 Question Id : 80089423224 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In radiography test, the lower density regions (like cracks) of material appear as

Options :

1. ✖ Lighter

2. ✔ Darker

3. ✖ Brighter

4. ✖ No contrast

Question Number : 170 Question Id : 80089423225 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Slow plastic deformation of metals under constant stress at high temperature is known as

Options :

1. ✔ Creep

2. ✖ Plastic deformation

3. ✖ Fatigue

4. ✖ Endurance

Question Number : 171 Question Id : 80089423226 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In CRSS equation, the term $Cos\phi Cos\lambda$ is referred to_____. Where ϕ and λ are the angle which the tensile axes

make with slip direction and slip planes.

Options :

1. ✖ Pascal's factor

2. ✖ Lorentz factor

3. ✔ Schmid factor

4. ✖ Multiplication factor

Question Number : 172 Question Id : 80089423227 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The recrystallization temperature of metals does not increase with

Options :

1. ✖ Concentration of impurity

2. ✖ Addition of alloying elements

3. ✔ Finer initial grain size

4. ✖ High cold working temperature

Question Number : 173 Question Id : 80089423228 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Reduction in density of point imperfection can be monitored experimentally measuring

Options :

1. ✖ Thermal conductivity

2. ✔ Electrical resistivity

3. ✖ Temperature

4. ✖ Impact strength

Question Number : 174 Question Id : 80089423229 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Solid solution strengthening of the alloy results when alloying addition forms _____

Options :

1. ✖ Second phases

2. ✖ Precipitates

3. ✔ Single Phase

4. ✖ Eutectic Mixture

Question Number : 175 Question Id : 80089423230 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Roll deflection during the sheet metal rolling results in following defects

Options :

1. ✖ Overlap

2. ✖ Mill-shearing

3. ✖ Thickness variation along the sheet

4. ✔ Thickness variation across the sheet

Question Number : 176 Question Id : 80089423231 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Arrange the following rolling process in ascending order of their coefficient of friction.

(a) Hot rolling (b) Cold rolling (c) Warm working

Options :

1. ✔ b, c, a

2. ✖ a, b, c

3. ✖ c, b, a

4. ✖ b, a, c

Question Number : 177 Question Id : 80089423232 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Which one of the following is not an open die forging operation?

Options :

1. ✖ Edging

2. ✔ Coining

3. ✖ Fullering

4. ✖ Cogging

Question Number : 178 Question Id : 80089423233 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

During extrusion, the deformation is the result of the following forces

Options :

1. ✖ Tensile

2. ✔ Compression

3. ✖ Shear

4. ✖ Bending

Question Number : 179 Question Id : 80089423234 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Hot working of lead is carried out at

Options :

1. ✔ room temperature

2. ✖ 50°C

3. ✖ 200°C

4. ✖

300°C

Question Number : 180 Question Id : 80089423235 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Which of the following is a drawing operation defect?

Options :

1. ✖ Piping

2. ✔ Earing

3. ✖ Fish tail

4. ✖ Barrelling

Question Number : 181 Question Id : 80089423236 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Chemical formula for Zircon sand is

Options :

1. ✖ $ZrO.\ SiO_2$

2. ✔ $ZrO_2.\ SiO_2$

3. ✖

ZrO_4. SiO_6

4. ✖ ZrO_2. Si_2O_3

Question Number : 182 Question Id : 80089423237 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Shrinkage allowance is provided to pattern to

Options :

1. ✔ Compensate the solid-state contraction

2. ✖ Easy removal of pattern

3. ✖ Remove contraction stresses

4. ✖ To remove the layer of casting

Question Number : 183 Question Id : 80089423238 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Main function of a riser is to

Options :

1. ✔ feed the casting until the end of solidification

2. ✖ Permit escape of hot gases

3. ✖ To facilitate faster cooling of casting

4. ✖ Extracting the heat from the mould wall

Question Number : 184 Question Id : 80089423239 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Find the Compound 'A' in the following reactions that takes place in investment casting process.

On hydrolysis, $Si(O_2H_5)_4 + 4H_2O$ -------> Compound 'A' $+4C_2H_5OH$

On Calcination, Compound 'A' -------> $SiO_2 + 2H_2O$

Options :

1. ✖ H_2SiO_2

2. ✖ H_2SiO

3. ✔ H_4SiO_4

4. ✖ H_5SiO_5

Question Number : 185 Question Id : 80089423240 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Match the following

	List-I	List-II
P)	Mould making	i) CO_2 Process
Q)	Core	ii) Dump-Box process
R)	Hot chamber die casting	iii) Jolt-Squeeze machine
S)	Shell moulding	iv) Gooseneck type machine

Options :

1. ✔ P-iii, Q-i, R-iv, S-ii

2. ✖ P-i, Q-ii, R-iii, S-iv

3. ✖ P-iv, Q-iii, R-ii, S-i

4. ✖ P-ii, Q-i, R-iii, S-iv

Question Number : 186 Question Id : 80089423241 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Which casting techniques is used for obtaining close dimensional accuracy?

Options :

1. ✖ Centrifugal casting

2. ✖ Sand casting

Die casting

3. ✖

4. ✔ Investment casting

Question Number : 187 Question Id : 80089423242 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The excellent damping properties of grey cast iron comes from

Options :

1. ✖ Cementite

2. ✖ Pearlite

3. ✔ Graphite

4. ✖ Ferrite

Question Number : 188 Question Id : 80089423243 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Match the following alloy type with their working temperature range for melting operations

	Alloy Type		Working temperature range(°C)
A)	Al-alloys	i)	1050 - 1250
B)	Cu-alloys	ii)	1450 - 1565
C)	Pb-alloys	iii)	690 - 790
D)	Ni-alloys	iv)	340 – 540

Options :

1. ✔ A – iii, B -i, C -iv, D – ii

2. ✖ A – i, B -ii, C -iii, D – iv

3. ✖ A – iv, B -iii, C -ii, D – i

4. ✖ A – ii, B -iv, C -i, D – iii

Question Number : 189 Question Id : 80089423244 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

In a sound casting, the last liquid to solidify is in the

Options :

1. ✔ Riser

2. ✖ Gate

3. ✖ Runner

4. ✖ Vent

Question Number : 190 Question Id : 80089423245 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

When the upper and lower parts of a mould are not properly joined, which leads to the following casting defect

Options :

1. ✖ Porosity

2. ✖ Blowhole

3. ✔ Mismatch

4. ✖ Scab

Question Number : 191 Question Id : 80089423246 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The potential between the welding electrode and the base metal when the machine is on but there is no arc is termed as

Options :

1. ✖ Duty cycle

2. ✖ Efficiency

3. ✔ Open circuit voltage

4. ✖ Arc voltage

Question Number : 192 Question Id : 80089423247 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following metal transfer uses high current densities?

Options :

1. ✔ Spray transfer

2. ✖ Globular transfer

3. ✖ Short Circuiting

4. ✖ Pulsed arc transfer

Question Number : 193 Question Id : 80089423248 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The ratio of C_2H_2 and O_2 in neutral flame of gas welding is

Options :

1. ✔ 1:1

2. ✖ 1:2

3. ✖ 1:0.5

4. ✖ 2:1

Question Number : 194 Question Id : 80089423249 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The following technique results in producing full penetration welds during Plasma Arc Welding (PAW)

Options :

1. ✖ Stringer beads

2. ✖ Weave beads

3. ✖ Backstep

4. ✔ Keyhole

Question Number : 195 Question Id : 80089423250 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

How much carbon equivalent in steel is considered to be good for weldability?

Options :

1. ✖ 1.0

2. ✖ 0.8

3. ✖ 0.6

4. ✔ 0.4

Question Number : 196 Question Id : 80089423251 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The shape and size of the weld pool is elongated when the

Options :

1. ✔ Heat input and welding speed increases

2. ✖ Heat input and welding speed decreases

3. ✖ Heat input decrease and welding speed increases

4. ✖ Heat input increases and welding speed decreases

Question Number : 197 Question Id : 80089423252 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which region of weld undergoes heat treatment effect?

Options :

1. ✖ Base metal

2. ✖ Weld metal

3. ✔ HAZ

4. ✖ Center of the weld

Question Number : 198 Question Id : 80089423253 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Arc strikes are discontinuities and most commonly associated with

Options :

1. ✖ Submerged arc welding

2. ✔ Shielded Metal Arc Welding

3. ✖ Plasma Arc Welding

4. ✖ Electron beam welding

Question Number : 199 Question Id : 80089423254 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which one of the following is a destructive testing of welds?

Options :

1. ✖ Visual test

2. ✔ Etch test

3. ✖ Leak test

4. ✖ Ultrasonic test

Question Number : 200 Question Id : 80089423255 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A problem occurring in weldments caused by the nonuniform heating produced by the welding operation is:

Options :

1. ✖ Porosity

2. ✖ Incomplete fusion

3. ✔ Distortion

4. ✖ Slag inclusions