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 :	MECHANICAL ENGINEERING 06th May 2024 Shift1
Subject Name :	Mechanical Engineering
Creation Date :	2024-05-06 19:15:14
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

MECHANICAL ENGINEERING

Group Number :	1
Group Id :	76144611
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 :	76144639
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 : 76144653

Question Shuffling Allowed : Yes

Is Section Default? : null

Question Number : 1 Question Id : 7614462011 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468001. ✖ ± 1

7614468002. ✔ ± 2

7614468003. ✖ ± 4

7614468004. ✖ ± 5

Question Number : 2 Question Id : 7614462012 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468005. ✔ 4

7614468006. ✖ 2

7614468007. ✖ -4

7614468008. ✖ 3

Question Number : 3 Question Id : 7614462013 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468009. ✖ 12

7614468010. ✖ 9

7614468011. ✖ 6

7614468012. ✔ 3

Question Number : 4 Question Id : 7614462014 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468013. ✖ 4

7614468014. ✖ 1

7614468015. ✔ 3

7614468016. ✖ 5

Question Number : 5 Question Id : 7614462015 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468017. ✔ 10

7614468018. ✖ 5

7614468019. ✖ 9

7614468020. ✖ 3

Question Number : 6 Question Id : 7614462016 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468021. ✖ -3

7614468022. ✔ 0

7614468023. ✖ 2

7614468024. ✖ 1

Question Number : 7 Question Id : 7614462017 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468025. ✖ $\sqrt{3}$

7614468026. ✖ $4\sqrt{3}$

7614468027. ✔ $2\sqrt{3}$

7614468028. ✖ 3

Question Number : 8 Question Id : 7614462018 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468029. ✖ -1

7614468030. ✖ 1

7614468031. ✔ 0

7614468032. ✖ ∞

Question Number : 9 Question Id : 7614462019 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468033. ✔ 4

7614468034. ✖ 8

7614468035. ✖ 12

7614468036. ✖ 2

Question Number : 10 Question Id : 7614462020 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468037. ✖ $(0,0)$

7614468038. ✖ $(60,36)$

7614468039. ✖ $(-60,36)$

7614468040. ✔ $(\frac{2}{3},-\frac{2}{5})$

Question Number : 11 Question Id : 7614462021 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468041. ✔ $h^2 > ab$

7614468042. ✖ $h^2 = ab$

7614468043. ✖ $h^2 < ab$

7614468044. ✖ $h^2 = a + b$

Question Number : 12 Question Id : 7614462022 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468045. ✖ $x^2 + y^2 + 6x + 10y + 26 = 0$

7614468046. ✔ $x^2 + y^2 - 6x - 10y + 26 = 0$

7614468047. ✖ $x^2 + y^2 - 6x + 10y + 26 = 0$

7614468048. ✖ $x^2 + y^2 - 6x - 10y - 26 = 0$

Question Number : 13 Question Id : 7614462023 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468049. ✖ -5

7614468050. ✖ -3

7614468051. ✔ -1

7614468052. ✖ -2

Question Number : 14 Question Id : 7614462024 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468053. ✔ $\frac{8}{3}$

7614468054. ✖ $\frac{9}{4}$

7614468055. ✖ $\frac{10}{7}$

7614468056. ✖ $\frac{11}{6}$

Question Number : 15 Question Id : 7614462025 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468057. ✖ $\frac{3}{5}$

7614468058. ✔ $\frac{4}{5}$

7614468059. ✖ $\frac{6}{5}$

7614468060. ✖ $\frac{7}{5}$

Question Number : 16 Question Id : 7614462026 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468061. ✔ $\left(\frac{-2}{5},\frac{-4}{5}\right)$

7614468062. ✖ $\left(\frac{2}{5},\frac{4}{5}\right)$

7614468063. ✖ $\left(\frac{2}{5},\frac{-4}{5}\right)$

7614468064. ✖ $\left(\frac{-2}{5},\frac{4}{5}\right)$

Question Number : 17 Question Id : 7614462027 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468065. ✖ 5

7614468066. ✔ 9

7614468067. ✖ 7

7614468068. ✖ 3

Question Number : 18 Question Id : 7614462028 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468069. ✖ $(0, \infty)$

7614468070. ✔ $(-\infty, \infty)$

7614468071. ✖ $(-\infty, 0) \cup (0, \infty)$

7614468072. ✖ $(-\infty, 0)$

Question Number : 19 Question Id : 7614462029 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468073. ✖ $n^2 + n$

7614468074. ✖ $\frac{n^2+n}{2}$

7614468075. ✔ $\frac{n^2-n}{2}$

7614468076. ✖ n^2-n

Question Number : 20 Question Id : 7614462030 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468077. ✖ $\frac{1}{\sqrt{2}}$

7614468078. ✔ $-\sqrt{2}$

7614468079. ✖ $\sqrt{3}$

7614468080. ✖ $-\frac{1}{\sqrt{3}}$

Question Number : 21 Question Id : 7614462031 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468081. ✔ $9x - y - 14 = 0$

7614468082. ✖ $9x + y - 14 = 0$

7614468083. ✖ $9x - y + 14 = 0$

7614468084. ✖ $9x + y = 0$

Question Number : 22 Question Id : 7614462032 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468085. ✖ $-2, 2$

7614468086. ✖ $-4, 4$

7614468087. ✖

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

7614468088. ✔ $-\frac{1}{2}, 2$

Question Number : 23 Question Id : 7614462033 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468089. ✖ 4

7614468090. ✔ 8

7614468091. ✖ 16

7614468092. ✖ 9

Question Number : 24 Question Id : 7614462034 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468093. ✖ $-\frac{y}{x}\left(\frac{x+y\log x}{y+x\log y}\right)$

7614468094. ✖ $\frac{y}{x}\left(\frac{x-\log x}{y+\log y}\right)$

7614468095. ✖ $\frac{y}{x}\left(\frac{y-x\log y}{x+y\log x}\right)$

7614468096. ✔ $-\frac{y}{x}\left(\frac{y+x\log y}{x+y\log x}\right)$

Question Number : 25 Question Id : 7614462035 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468097. ✖ 3

7614468098. ✖ 4

7614468099. ✔ 2

7614468100. ✖ 5

Question Number : 26 Question Id : 7614462036 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468101. ✖ -2

7614468102. ✔ -1

7614468103. ✖ 1

7614468104. ✖ 2

Question Number : 27 Question Id : 7614462037 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468105. ✖ 2

7614468106. ✖ 1/e

7614468107. ✔ 1

7614468108. ✖ 3

Question Number : 28 Question Id : 7614462038 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468109. ✖ $Cosec^2x - Sec^2x + c$

7614468110. ✖ $Cotx + Tanx + c$

7614468111. ✔ $-Cotx - tanx + c$

7614468112. ✖ $Cosecx - Secx + c$

Question Number : 29 Question Id : 7614462039 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468113. ✖ $e^{xCotx} + c$

7614468114. ✔ $e^{xCosecx} + c$

7614468115. ✖ $e^{-xCotx} + c$

7614468116. ✖ $e^{-xCos\ ecx} + c$

Question Number : 30 Question Id : 7614462040 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468117. ✖ $\frac{\pi}{10}$

7614468118. ✔ $\frac{\pi}{5}$

7614468119. ✖ $-\frac{\pi}{5}$

7614468120. ✖ $-\frac{\pi}{10}$

Question Number : 31 Question Id : 7614462041 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468121. ✖ $1/3$

7614468122. ✖ 1

7614468123. ✖ $2/3$

7614468124. ✔ $1/6$

Question Number : 32 Question Id : 7614462042 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468125. ✖ $\frac{d^2y}{dx^2} - 2\frac{dy}{dx} - y = 0$

7614468126. ✔ $x\frac{d^2y}{dx^2} + 2\frac{dy}{dx} - xy = 0$

7614468127. ✖ $x\frac{d^2y}{dx^2} - 2\frac{dy}{dx} - y = 0$

7614468128. ✖ $x^2\frac{d^2y}{dx^2}+2\frac{dy}{dx}-y=0$

Question Number : 33 Question Id : 7614462043 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468129. ✔ $\sin(y-x)=ce^{\frac{x^2}{2}}$

7614468130. ✖ $\cos(y-x)=ce^{\frac{-x^2}{2}}$

7614468131. ✖ $\sin(y+x)=ce^{\frac{-x^2}{2}}$

7614468132. ✖ $\tan(y-x)=ce^{\frac{x^2}{2}}$

Question Number : 34 Question Id : 7614462044 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468133. ✖ $(1+x)(1+y)=cx^2y^2$

7614468134. ✔ $(1+x^2)(1+y^2)=cx^2$

7614468135. ✖ $(1+x^2)(1+y^2)=cy$

7614468136. ✖ $(1+x^2)(1+y^2)=cxy$

Question Number : 35 Question Id : 7614462045 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468137. ✔ $y=x^4+x^2\log x+cx^2$

7614468138. ✖ $y=x^3+x^2\log x+cx^2$

7614468139. ✖ $y=x^3+x\log x+cx^2$

7614468140. ✖ $y=x^2+x\log x+cx^3$

Question Number : 36 Question Id : 7614462046 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes 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 :

7614468141. ✖ $\sin y=x^2+2+ce^{\frac{-x^2}{2}}$

7614468142. ✖ $\cos y=2x^2-1+ce^{\frac{-x^2}{2}}$

7614468143. ✖ $\cot y=x^2-2+ce^{\frac{-x^2}{2}}$

7614468144. ✔ $\tan y=x^2-2+ce^{\frac{-x^2}{2}}$

Question Number : 37 Question Id : 7614462047 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468145. ✖ $\frac{1}{7}e^{-3x}+\frac{x}{8}\cos 4x$

7614468146. ✖ $\frac{1}{23}e^{-3x}+\frac{x}{8}\cos 4x$

7614468147. ✔ $\frac{1}{25}e^{-3x}+\frac{x}{8}\sin 4x$

7614468148. ✖ $\frac{1}{36}e^{-3x}+\frac{x}{9}\sin 4x$

Question Number : 38 Question Id : 7614462048 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468149. ✖ x^2+4x

7614468150. ✖ $2x^2-x$

7614468151. ✖ x^2-8x

7614468152. ✔ x^2-2x

Question Number : 39 Question Id : 7614462049 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468153. ✖ $y=\frac{1}{20}e^{3x}+\frac{1}{12}e^{5x}$

7614468154. ✔ $y=\frac{1}{20}e^{5x}+\frac{1}{12}e^{-3x}$

7614468155. ✖ $y=\frac{1}{12}e^{5x}+\frac{1}{20}e^{-3x}$

7614468156. ✖ $y=\frac{1}{20}e^{-5x}+\frac{1}{12}e^{-3x}$

Question Number : 40 Question Id : 7614462050 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468157. ✖ $\frac{1}{s^2+2s+2}$

7614468158. ✖

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

7614468159. ✔ $\frac{1}{s\left(s^2+2s+2\right)}$

7614468160. ✖ $\frac{1}{s\left(s^2+2\right)}$

Question Number : 41 Question Id : 7614462051 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468161. ✔ $1-e$

7614468162. ✖ $e-1$

7614468163. ✖ e

7614468164. ✖ $e+1$

Question Number : 42 Question Id : 7614462052 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468165. ✖ π

7614468166. ✖ 0

7614468167. ✖ 2π

7614468168. ✔ $\frac{\pi}{2}$

Question Number : 43 Question Id : 7614462053 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468169. ✖ 1

7614468170. ✖ 4

7614468171. ✔ 2

7614468172.

✖ $\frac{1}{2}$

Question Number : 44 Question Id : 7614462054 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468173. ✖ $e^{-2t}\sin t$

7614468174. ✔ $e^{-2(t-1)}\sin(t-1)$

7614468175. ✖ $e^{-2(t+1)}\sin(t+1)$

7614468176. ✖ $e^{2t}\sin t$

Question Number : 45 Question Id : 7614462055 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468177. ✖ $\frac{2(s+2)}{(s-4)(s+8)}$

7614468178. ✖ $\frac{2(s-1)}{(4s+1)(4s-2)}$

7614468179. ✖ $\frac{s-2}{(s-4)(s+8)}$

7614468180. ✔ $\frac{2(s-2)}{(s+4)(s-8)}$

Question Number : 46 Question Id : 7614462056 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468181. ✖ 0

7614468182. ✖ 3

7614468183. ✔ $\frac{1}{3}$

7614468184. ✖ $\frac{1}{9}$

Question Number : 47 Question Id : 7614462057 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468185. ✖ $\frac{4}{\pi n^2}$

7614468186. ✔ $\frac{-4}{\pi n^2}$

7614468187. ✖ $\frac{2}{\pi n^2}$

7614468188. ✖ 0

Question Number : 48 Question Id : 7614462058 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468189. ✔ 0

7614468190. ✖ -2

7614468191. ✖ 2

7614468192. ✖ -1

Question Number : 49 Question Id : 7614462059 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468193. ✖ $\frac{2}{\pi}$

7614468194. ✖ $\frac{1}{\pi}$

7614468195. ✔ $\frac{4}{\pi}$

7614468196. ✖ $\frac{-2}{\pi}$

Question Number : 50 Question Id : 7614462060 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468197. ✖ $\frac{\pi}{2}$

7614468198. ✖ π

7614468199. ✖ 1

7614468200. ✔ 0

Physics

Section Id :	76144640
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 : 76144654

Question Shuffling Allowed : Yes

Is Section Default? : null

Question Number : 51 Question Id : 7614462061 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468201. ✖ $y = \frac{A}{\sqrt{2}}(\text{Sin}\omega t + \text{Cos}\omega t)$

7614468202. ✖ $y = A\ \text{Sin}\omega t$

7614468203. ✔ $y = \frac{A}{T}\ \text{Sin}(\frac{t}{A})$

7614468204. ✖ $y = A\ \text{Sin}(\frac{4\pi t}{T})$

Question Number : 52 Question Id : 7614462062 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468205. ✖ 612, 612

7614468206. ✖ 1224, 1224

7614468207. ✔ 865, 865

7614468208. ✖ 432, 432

Question Number : 53 Question Id : 7614462063 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468209. ✔ 90^0

7614468210. ✖ 60^0

7614468211. ✖ 30^0

7614468212. ✖ 45^0

Question Number : 54 Question Id : 7614462064 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468213. ✔ $98.1\ kg.m.s^{-2}$

7614468214. ✖ 15 kg

7614468215. ✖ $98.1 \times 10^3\ g.cm.s^{-2}$

7614468216. ✖ 1500 g

Question Number : 55 Question Id : 7614462065 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468217. ✖ $2u \sin\theta$

7614468218. ✖ $u \sin\theta$

7614468219. ✖ $2u \cos\theta$

7614468220. ✔ $u \cos\theta$

Question Number : 56 Question Id : 7614462066 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468221. ✖ 10 Newton

7614468222. ✖ 20 Newton

7614468223. ✖ 30 Newton

7614468224. ✔ 40 Newton

Question Number : 57 Question Id : 7614462067 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468225. ✔ $10^{-4}\ Pa\ s$

7614468226. ✖ $10^{-3}\ Pa\ s$

7614468227. ✖ $10^{-1}\ Pa\ s$

7614468228. ✖ $10\ Pa\ s$

Question Number : 58 Question Id : 7614462068 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468229. ✖ m

7614468230. ✖ 2m

7614468231. ✔ $\frac{m}{2}$

7614468232. ✖ 4m

Question Number : 59 Question Id : 7614462069 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468233. ✖ $\rho_2 A_1 v_1 = \rho_1 A_2 v_2$

7614468234. ✖ $A_1 v_1 = A_2 v_2$

7614468235. ✖ $\rho_1 v_1 = \rho_2 v_2$

7614468236. ✔ $\rho_1 A_1 v_1 = \rho_2 A_2 v_2$

Question Number : 60 Question Id : 7614462070 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468237. ✖ 25: 4

7614468238. ✔ 4 : 25

7614468239. ✖ 1: 25

7614468240. ✖ 4 : 1

Question Number : 61 Question Id : 7614462071 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468241. ✖ a-iv, b-iii, c-ii, d-i

7614468242. ✖ a-i, b-iv, c-ii, d-iii

7614468243. ✔ a-iv, b-i, c-ii, d-iii

7614468244. ✖ a-i, b-ii, c-iii, d-iv

Question Number : 62 Question Id : 7614462072 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468245. ✖ Pressure

7614468246. ✖ Momentum

7614468247. ✖ Entropy

7614468248. ✔ Energy

Question Number : 63 Question Id : 7614462073 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468249. ✖ 0

7614468250. ✖ 2a

7614468251. ✔ 4a

7614468252. ✖ 3a

Question Number : 64 Question Id : 7614462074 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes 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 :

7614468253. ✖ 0 ms^{-2}

7614468254. ✔ 0.25 ms^{-2}

7614468255. ✖ 2.5 ms^{-2}

7614468256. ✖ 10 ms^{-2}

Question Number : 65 Question Id : 7614462075 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468257. ✖ $2\sqrt{3}\,ms^{-1}$

7614468258. ✖ $4\sqrt{3}\,ms^{-1}$

7614468259. ✖ $0\,ms^{-1}$

7614468260. ✔ $\sqrt{3}\ ms^{-1}$

Question Number : 66 Question Id : 7614462076 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468261. ✖ 680 m

7614468262. ✖ 1020 m

7614468263. ✔ 1700 m

7614468264. ✖ 340 m

Question Number : 67 Question Id : 7614462077 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468265. ✖ Gradually increasing

7614468266. ✖ Exponentially increasing

7614468267. ✖ Randomly change

7614468268. ✔ Uniform

Question Number : 68 Question Id : 7614462078 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468269. ✔ 10 cm

7614468270. ✖ 4 cm

7614468271. ✖ 2 cm

7614468272. ✖ 6 cm

Question Number : 69 Question Id : 7614462079 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468273. ✖ 0.05 A

7614468274. ✖ 0.5 A

7614468275. ✔ 0 A

7614468276. ✖ 5 A

Question Number : 70 Question Id : 7614462080 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468277. ✔ 1 A

7614468278. ✖ 2 A

7614468279. ✖ 3 A

7614468280. ✖ 4 A

Question Number : 71 Question Id : 7614462081 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468281. ✖ Yes

7614468282. ✔ No

7614468283. ✖ Yes, if intensity of incident light is increased

7614468284. ✖ Yes, if material is illuminated for a long time

Question Number : 72 Question Id : 7614462082 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468285. ✖ Conductors

7614468286. ✖ Superconductors

7614468287. ✖ Semiconductors

7614468288. ✔ Insulators

Question Number : 73 Question Id : 7614462083 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468289. ✔ Perfect diamagnetic

7614468290. ✖ Weak diamagnetic

7614468291. ✖ Perfect ferromagnetic

7614468292. ✖ Weak paramagnetic

Question Number : 74 Question Id : 7614462084 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468293. ✖ The conduction band is completely empty

7614468294. ✔ 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

7614468295. ✖

7614468296. ✖ The valence band is completely filled

Question Number : 75 Question Id : 7614462085 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468297. ✖ To increase the resistivity

7614468298. ✔ To get the desired level of conductivity

7614468299. ✖ To reduce the conductivity

7614468300. ✖ To get the positive temperature coefficient of resistance

Chemistry

Section Id :	76144641
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 :	76144655
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 76 Question Id : 7614462086 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468301. ✖ 19

7614468302. ✖ 58

7614468303. ✖ 39

7614468304. ✔ 20

Question Number : 77 Question Id : 7614462087 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468305. ✖ Ammonia

7614468306. ✔ Ammonium ion

7614468307. ✖ Urea

7614468308. ✖ Nitrogen

Question Number : 78 Question Id : 7614462088 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468309. ✖ NH_2^-

7614468310. ✖ N_2H_4

7614468311. ✔ H_3O^+

7614468312. ✖ H_2O_2

Question Number : 79 Question Id : 7614462089 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468313. ✔ 12.0

7614468314. ✖ 16.03

7614468315. ✖ 6.0

7614468316. ✖ 1.20

Question Number : 80 Question Id : 7614462090 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468317. ✖ Peptization

7614468318. ✔ Dialysis

7614468319. ✖ Mechanical Dispersion

7614468320. ✖ Oxidation

Question Number : 81 Question Id : 7614462091 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468321. ✔ $BaCl_2$

7614468322. ✖ $AlCl_3$

7614468323. ✖ BF_3

7614468324. ✖ $BeCl_2$

Question Number : 82 Question Id : 7614462092 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468325. ✖ 3

7614468326. ✖ 9

7614468327. ✖ 7

7614468328. ✔ 11

Question Number : 83 Question Id : 7614462093 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468329. ✔ Aniline

7614468330. ✖ Room temperature ionic liquids

7614468331. ✖ Bio solvents

7614468332. ✖ Supercritical fluids

Question Number : 84 Question Id : 7614462094 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468333. ✖ July 5th

7614468334. ✖ June 10th

7614468335. ✖ October 20th

7614468336. ✔ June 5th

Question Number : 85 Question Id : 7614462095 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468337. ✖ Lime – Soda process

7614468338. ✖ Permutit process

7614468339. ✖ Ion-exchange process

7614468340. ✔ Electrodialysis process

Question Number : 86 Question Id : 7614462096 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468341. ✔ Ozone

7614468342. ✖ Oxygen

7614468343. ✖ Caustic Potash

7614468344. ✖ Hydrogen peroxide

Question Number : 87 Question Id : 7614462097 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468345. ✖ Cl_2

7614468346. ✖ NaOH

7614468347. ✖ HCl

7614468348. ✔ Na

Question Number : 88 Question Id : 7614462098 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468349. ✔ 0.0003292 g

7614468350. ✖ 0.003950 g

7614468351. ✖ 0.0001646 g

7614468352. ✖ 0.00164 g

Question Number : 89 Question Id : 7614462099 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468353. ✖ Electrolytic reduction

7614468354. ✔ Roasting followed by reduction with carbon

7614468355. ✖ Roasting followed by reduction with another metal

7614468356. ✖ Roasting followed by self-reduction

Question Number : 90 Question Id : 7614462100 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468357. ✖ Silica

7614468358. ✔ Carbon monoxide

7614468359. ✖ Carbon

7614468360. ✖ Limestone

Question Number : 91 Question Id : 7614462101 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468361. ✖ Oxygen evolution occurs

7614468362. ✔ Hydrogen evolution takes place

7614468363. ✖ Oxygen absorption occurs

7614468364. ✖ Hydrogen absorption takes place

Question Number : 92 Question Id : 7614462102 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes 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 :

7614468365. ✔ Sheradising

7614468366. ✖ Galvanizing

7614468367. ✖ Zincing

7614468368. ✖ Tinning

Question Number : 93 Question Id : 7614462103 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468369. ✖ Urea and formaldehyde

7614468370. ✖ Phthalic acid and ethylene glycol

7614468371. ✖ Ethylene glycol and formaldehyde

7614468372. ✔ Phenol and formaldehyde

Question Number : 94 Question Id : 7614462104 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468373. ✖ Polystyrene

7614468374. ✔ Buna-S rubber

7614468375. ✖ Melamine

7614468376. ✖ Dacron

Question Number : 95 Question Id : 7614462105 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468377. ✔ Moderate ignition temperature and high calorific value

7614468378. ✖ High ignition temperature and high calorific value

7614468379. ✖ Low ignition temperature and low calorific value

7614468380. ✖ Low ignition temperature and high calorific value

Question Number : 96 Question Id : 7614462106 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468381. ✖ Wick feed lubricator

7614468382. ✔ Ring lubricator

7614468383. ✖ Grease Gun

7614468384. ✖ Pump lubricator

Question Number : 97 Question Id : 7614462107 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468385. ✖ 0

7614468386. ✖ 0.6990

7614468387. ✖ − 0. 242

7614468388. ✔ + 0.242

Question Number : 98 Question Id : 7614462108 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468389. ✔ 1.53 V

7614468390. ✖ 0.01 V

7614468391. ✖ − 1.53 V

7614468392. ✖ 0.78 V

Question Number : 99 Question Id : 7614462109 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468393. ✔ Methyl isocyanate

7614468394. ✖ Methyl chloroformate

7614468395. ✖ Methyl isopropyl ether

7614468396. ✖ Methyl isobutyrate

Question Number : 100 Question Id : 7614462110 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 :

7614468397. ✖ CO and CO_2

7614468398. ✖ NO and NO_2

7614468399. ✔ SO_2 and NO_2

7614468400. ✖ N_2 and O_2

MECHANICAL ENGINEERING

Section Id : 76144642

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 :	76144656
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 101 Question Id : 7614462111 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 carpentry tool having a tapered long blade which is narrow is

Options :

7614468401. ✖ Rip Saw

7614468402. ✖ Panel Saw

7614468403. ✔ Compass Saw

7614468404. ✖ Key hole Saw

Question Number : 102 Question Id : 7614462112 Question Type : MCQ Option Shuffling : Yes

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

Correct Marks : 1 Wrong Marks : 0

Cold chisel used for forging, has an included angle of

Options :

7614468405. ✖ 70°

7614468406. ✔ 60°

7614468407. ✖ 30°

7614468408. ✖ 45°

Question Number : 103 Question Id : 7614462113 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 tool used to cut a galvanised iron sheet to desired shape and size is

Options :

7614468409. ✔ Snip

7614468410. ✖ Punch

7614468411. ✖ Hammer

7614468412. ✖ Stake

Question Number : 104 Question Id : 7614462114 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 Vernier calipers, each division on main scale measures 1 mm. The Vernier scale is 49 mm long and is divided into 50 equal divisions. The least count of the Vernier calipers will be

Options :

7614468413. ✖ 0.1 mm

7614468414. ✖ 0.01 mm

7614468415. ✖ 0.2 mm

7614468416. ✔ 0.02 mm

Question Number : 105 Question Id : 7614462115 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Hot working of a work piece is carried

Options :

7614468417. ✖ At melting point temperature of metal

7614468418.

✔ Above re-crystallization temperature of metal

7614468419. ✖ Below room temperature

7614468420. ✖ Below re-crystallization temperature of metal

Question Number : 106 Question Id : 7614462116 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 in which blanks of sheet metal are stretched to shape under pressure by means of a Punch and a Die is

Options :

7614468421. ✖ Shot peening

7614468422. ✖ Roll forming

7614468423. ✖ Roll bending

7614468424. ✔ Embossing

Question Number : 107 Question Id : 7614462117 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 tool which is used to rap and draw patterns from the mould is

Options :

7614468425. ✖ Swab

7614468426. ✖ Trowel

7614468427. ✔ Draw spike

7614468428. ✖ Strike off bar

Question Number : 108 Question Id : 7614462118 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The property of moulding sand which allows the gases and steam to escape through sand mould is

Options :

7614468429. ✖ Refractoriness

7614468430. ✔ Permeability

7614468431. ✖ Flowability

7614468432. ✖ Cohesiveness

Question Number : 109 Question Id : 7614462119 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 Oxy-Acetylene welding the colours of oxygen and acetylene cylinders are

Options :

7614468433. ✔ Oxygen Black in colour and Acetylene Maroon in colour

7614468434. ✖ Oxygen Green in colour and Acetylene Maroon in colour

7614468435. ✖ Oxygen Black in colour and Acetylene Red in colour

7614468436. ✖ Oxygen Green in colour and Acetylene Red in colour

Question Number : 110 Question Id : 7614462120 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 depression caused by the penetration of electric arc into the parent metal is called

Options :

7614468437. ✖ Arc blow

7614468438. ✔ Arc crater

7614468439. ✖ Bead

7614468440.

✖ Arc deflection

Question Number : 111 Question Id : 7614462121 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 methods should be used for turning internal taper only?

Options :

7614468441. ✖ Tailstock offset

7614468442. ✖ Headstock offset

7614468443. ✖ Form tool

7614468444. ✔ Swiveling Compound rest

Question Number : 112 Question Id : 7614462122 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 casting method adopted for making ornaments and toys from non-ferrous alloys is

Options :

7614468445. ✖ Vaccum casting

7614468446. ✔ Slush casting

7614468447. ✖ Die casting

7614468448. ✖ Tape casting

Question Number : 113 Question Id : 7614462123 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Use of vacuum chamber is an essential part of the machine for

Options :

7614468449. ✖ Laser beam welding

7614468450. ✔ Electron beam welding

7614468451. ✖ Friction welding

7614468452. ✖ Thermit welding

Question Number : 114 Question Id : 7614462124 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is not a type of fusion welding

Options :

7614468453. ✔ Brazing

7614468454. ✖ Gas welding

7614468455. ✖ Arc welding

7614468456. ✖ Resistance welding

Question Number : 115 Question Id : 7614462125 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 which one variant of the centrifugal casting process, the axis of rotation of the mould coincides with the axis of the casting

Options :

7614468457. ✖ Mould casting

7614468458. ✔ True centrifugal casting

7614468459. ✖ Centrifuging

7614468460. ✖ Investment casting

Question Number : 116 Question Id : 7614462126 Question Type : MCQ Option Shuffling : Yes

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

Correct Marks : 1 Wrong Marks : 0

Grinding ratio generally used in grinding wheels is

Options :

7614468461. ✔ 0.5 to 10

7614468462. ✖ 100 to 200

7614468463. ✖ 1000 to 2000

7614468464. ✖ 30 to 40

Question Number : 117 Question Id : 7614462127 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 jig is commonly used on the following type of machine

Options :

7614468465. ✖ Lathe

7614468466. ✔ Drilling

7614468467. ✖ Milling

7614468468. ✖ Shaper

Question Number : 118 Question Id : 7614462128 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 commonly used material for making jigs and fixture is

Options :

7614468469. ✖ Copper

7614468470. ✖ Wrought iron

7614468471. ✔ Mild Steel

7614468472. ✖ Zinc

Question Number : 119 Question Id : 7614462129 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 electrolyte is used in electro-chemical machining process

Options :

7614468473. ✖ Water

7614468474. ✖ Kerosene

7614468475. ✖ Linsed oil

7614468476. ✔ Brine solution

Question Number : 120 Question Id : 7614462130 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 linear arc welding process, the heat input per unit length is inversely proportional to

Options :

7614468477. ✖ Welding current

7614468478. ✔ Welding speed

7614468479. ✖ Welding voltage

7614468480. ✖ Duty cycle of the power source

Question Number : 121 Question Id : 7614462131 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Babbit metal is an Alloy of

Options :

7614468481. ✔ Copper – Tin - Antimony

7614468482. ✖ Tungsten – Chromium - Vanadium

7614468483. ✖ Copper – Zinc - Aluminium

7614468484. ✖ Lead – Tin - Zinc

Question Number : 122 Question Id : 7614462132 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

White Cast Iron contains Carbon in the form of

Options :

7614468485. ✖ Flakes

7614468486. ✔ Cementite

7614468487. ✖ Spheriods

7614468488. ✖ Steel

Question Number : 123 Question Id : 7614462133 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 reduction of Iron ore to Pig Iron is called as

Options :

7614468489. ✖ Annealing

7614468490. ✔ Smelting

7614468491. ✖ Carburizing

7614468492. ✖ Normalizing

Question Number : 124 Question Id : 7614462134 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 slow and progressive deformation of a material with time at constant stress is called as

Options :

7614468493. ✖ Fracture

7614468494. ✖ Fatigue

7614468495. ✖ Grain growth

7614468496. ✔ Creep

Question Number : 125 Question Id : 7614462135 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Pudling is the process of producing

Options :

7614468497. ✖ Cast Iron

7614468498. ✖ Stainless Steel

7614468499. ✔ Wrought Iron

7614468500. ✖ Pig Iron

Question Number : 126 Question Id : 7614462136 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Mild steel belongs to the category of

Options :

7614468501. ✔ Low carbon steel

7614468502. ✖ High carbon steel

7614468503. ✖ Medium carbon steel

7614468504. ✖ No carbon steel

Question Number : 127 Question Id : 7614462137 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes 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 ability of a material to be flattened into sheets is called as

Options :

7614468505. ✖ Ductility

7614468506. ✔ Malleability

7614468507. ✖ Strength

7614468508. ✖ Rigidity

Question Number : 128 Question Id : 7614462138 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 Blast furnace is used to produce

Options :

7614468509. ✔ Pig Iron

7614468510. ✖ Wrought Iron

7614468511. ✖ Cast Iron

7614468512. ✖ Mild Steel

Question Number : 129 Question Id : 7614462139 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 resistance of a material to elastic deformation is called

Options :

7614468513. ✔ Stiffness

7614468514. ✖ Resilience

7614468515. ✖ Hardness

7614468516. ✖ Ductility

Question Number : 130 Question Id : 7614462140 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Gun metal consists of

Options :

7614468517. ✔ 10% Tin, 88% Copper, 2% Zinc

7614468518. ✖ 78% Tin, 20% Copper, 2% Zinc

7614468519. ✖ 68% Tin, 30% Copper, 2% Zinc

7614468520. ✖ 40% Tin, 58% Copper, 2% Zinc

Question Number : 131 Question Id : 7614462141 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Input of additive manufacturing process

Options :

7614468521. ✖ CNC data

7614468522. ✔ CAD data

7614468523. ✖ DNC data

7614468524. ✖ Production planning control data

Question Number : 132 Question Id : 7614462142 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

CAD/CAM is the relationship between

Options :

7614468525. ✔ Design and Manufacturing

7614468526. ✖ Science and Engineering

7614468527. ✖ Manufacturing and Marketing

7614468528. ✖ Design and Marketing

Question Number : 133 Question Id : 7614462143 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

CAM database system is extensively used in

Options :

7614468529. ✔ Numerical control part programming

7614468530. ✖ Lathe

7614468531. ✖ Milling

7614468532. ✖ Jig boring

Question Number : 134 Question Id : 7614462144 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 type of drive is used in robots for great speed and strength

Options :

7614468533. ✖ Electrical drive

7614468534. ✔ Hydraulic drive

7614468535. ✖ Pneumatic drive

7614468536. ✖ Mechanical drive

Question Number : 135 Question Id : 7614462145 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 NC (Numerical Control) Processing is integrated with CAD systems, the association of tool paths generated with the CAD geometric model is known as

Options :

7614468537. ✖ Design for manufacturing

7614468538. ✖ Associativity

7614468539. ✖ DNC system

7614468540. ✔ Computer integrated manufacturing

Question Number : 136 Question Id : 7614462146 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 diagrammatic representation of the frame work of an enterprise is called as

Options :

7614468541. ✖ Bar Chart

7614468542. ✔ Organization Chart

7614468543. ✖ SIMO Chart

7614468544. ✖ Structure Chart

Question Number : 137 Question Id : 7614462147 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Line organization is also called as

Options :

7614468545. ✖ Vertical organization

7614468546. ✖ Matrix organization

7614468547. ✔ Military organization

7614468548. ✖ Project organization

Question Number : 138 Question Id : 7614462148 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 managerial function that reviews performance and initiates corrective action is called as

Options :

7614468549. ✖ Planning

7614468550. ✖ Directing

7614468551. ✔ Controlling

7614468552. ✖ Organizing

Question Number : 139 Question Id : 7614462149 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

EOQ stands for

Options :

7614468553. ✔ Economic Order Quantity

7614468554. ✖ Every Ordered Quantity

7614468555. ✖ Ensuring Optimal Quality

7614468556. ✖ Ensuring Optimal Quantity

Question Number : 140 Question Id : 7614462150 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Break even point is not affected by

Options :

7614468557. ✖ Variable cost per unit

7614468558. ✔ Sales price per unit

7614468559. ✖ Number of units sold

7614468560. ✖ Total fixed cost

Question Number : 141 Question Id : 7614462151 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The method in which inventory is classified according to its turnover is called

Options :

7614468561. ✔ ABC analysis

7614468562. ✖ Two Bin Method

7614468563. ✖ WED analysis

7614468564. ✖ FRN analysis

Question Number : 142 Question Id : 7614462152 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 founder of world wide quality management is

Options :

7614468565. ✔ Dr W Edwards Deming

7614468566. ✖ Juran

7614468567. ✖ Crossby

7614468568. ✖ F H Taylor

Question Number : 143 Question Id : 7614462153 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

ISO stand for

Options :

7614468569. ✖

International Service Organization

7614468570. ✖ International Sales Organization

7614468571. ✔ International Organization for Standardization

7614468572. ✖ International Survey Organization

Question Number : 144 Question Id : 7614462154 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Gantt Chart represents

Options :

7614468573. ✖ Temporary storage in-process inventory

7614468574. ✔ Comparison between actual progress and planned progress

7614468575. ✖ Balance of work to be carried out

7614468576. ✖ Weekly breakdown of production requirement

Question Number : 145 Question Id : 7614462155 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Bin cards are used in keeping record of

Options :

7614468577. ✖ Man power

7614468578. ✖ Machine utilization

7614468579. ✔ Material storage

7614468580. ✖ Entry / Exit time of workers

Question Number : 146 Question Id : 7614462156 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 processes

A. Isobaric	1. Constant temperature
B. Isochoric	2. Constant pressure
C. Isothermal	3. Constant volume
D. Isentropic	4. No heat transfer
	5. Constant entropy

Options :

7614468581. ✖ A-1, B-3, C-2, D-5

7614468582. ✖ A-3, B-1, C-4, D-2

7614468583. ✖ A-2, B-3, C-4, D-5

7614468584. ✔ A-2, B-3, C-1, D-5

Question Number : 147 Question Id : 7614462157 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

What is the correct order of processes in Diesel cycle?

A. Isentropic expansion

B. Isentropic compression

C. Isobaric heat addition

D. Isobaric heat rejection

E. Isochoric heat addition

F. Isochoric heat rejection

Options :

7614468585. ✔ B-C-A-F

7614468586. ✖ B-C-A-D

7614468587. ✖ B-E-A-F

7614468588. ✖ B-E-A-D

Question Number : 148 Question Id : 7614462158 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 relation between rotational speed of crankshaft and rotational speed of camshaft in a 4 stroke IC engine?

Options :

7614468589. ✖ Rotational speed of crankshaft = rotational speed of camshaft

7614468590. ✔ Rotational speed of crankshaft = 2 x rotational speed of camshaft

7614468591. ✖ Rotational speed of crankshaft = ½ x rotational speed of camshaft

7614468592. ✖ Rotational speed of crankshaft = 4 x rotational speed of camshaft

Question Number : 149 Question Id : 7614462159 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

"Internal energy of gas is a function of Temperature only", this relation is called as

Options :

7614468593. ✖ Charles Law

7614468594. ✖ Regnault's Law

7614468595. ✔ Joule's Law

7614468596. ✖ Boyle's Law

Question Number : 150 Question Id : 7614462160 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Stoichiometric ratio of Petrol is about?

Options :

7614468597. ✖ 20:1

7614468598. ✖ 17:1

7614468599. ✖ 10:1

7614468600. ✔ 15:1

Question Number : 151 Question Id : 7614462161 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 an IC engine, The linear motion of the piston is converted to rotary motion of the shaft by

Options :

7614468601. ✔ Crank shaft with connecting rod

7614468602. ✖ Flywheel

7614468603. ✖ Piston rings

7614468604. ✖ Cam mechanism

Question Number : 152 Question Id : 7614462162 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 Indicated power and brake power of an IC engine are 50 and 20 kW respectively. Its mechanical efficiency is

Options :

7614468605. ✖ 25 %

7614468606. ✔ 40 %

7614468607. ✖ 75 %

7614468608. ✖ 33 %

Question Number : 153 Question Id : 7614462163 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

110 J of heat is added to a gaseous system, the change in internal energy is - 40 J, then the amount of external work done in Joules is

Options :

7614468609. ✔ 150

7614468610. ✖ 110

7614468611. ✖ 40

7614468612. ✖ 70

Question Number : 154 Question Id : 7614462164 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 efficiency of Carnot cycle depends upon

Options :

7614468613. ✔ Temperature limits

7614468614. ✖ Pressure ratio

7614468615. ✖ Volume compression ratio

7614468616. ✖ Cut-off and compression ratio

Question Number : 155 Question Id : 7614462165 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following has the highest calorific value in kJ/m^3

Options :

7614468617. ✖ Producer gas

7614468618. ✔ Natural gas

7614468619. ✖ Coal gas

7614468620. ✖ Blast furnace gas

Question Number : 156 Question Id : 7614462166 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 a reciprocating air compressor, mechanical efficiency is given by

Options :

7614468621. ✖ $\frac{\text{Shaft horse power}}{\text{Indicated horse power}}$

7614468622. ✔ $\frac{\text{Indicated horse power}}{\text{Shaft horse power}}$

7614468623. ✖ $\frac{\text{Frictional horse power}}{\text{Shaft horse power}}$

7614468624. ✖ $\frac{\text{Frictional horse power}}{\text{Indicated horse power}}$

Question Number : 157 Question Id : 7614462167 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

With the use of intercooler in multistage compression of air compressors

Options :

7614468625. ✖ Total work done on compressor increases

7614468626. ✖ There will be no change in net work done on compressor

7614468627. ✔ Total work done on compressor decreases

7614468628. ✖ Total work done on compressor will be always zero.

Question Number : 158 Question Id : 7614462168 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 gas turbine, work input to the compressor is 200 kJ/kg, while work output at turbine is 300 kJ/kg and heat supplied is 300 kJ/kg. The thermal efficiency of the gas turbine will be

Options :

7614468629. ✖ 40 %

7614468630. ✔ 33.33 %

7614468631. ✖ 60 %

7614468632. ✖ 66.66 %

Question Number : 159 Question Id : 7614462169 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 jet engine in which air enters into the engine with supersonic velocity and is slowed to sonic velocity is called as

Options :

7614468633. ✖ Turbo jet

7614468634. ✖ Turbo prop

7614468635. ✖ Rocket engine

7614468636. ✔ Ram jet

Question Number : 160 Question Id : 7614462170 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Steam is at a pressure of 5 bar and 200°C , while its saturation temperature is 150°C, the condition of steam is

Options :

7614468637. ✖ Wet steam

7614468638. ✖ Saturated steam

7614468639. ✔ Superheated steam

7614468640. ✖ Dry steam

Question Number : 161 Question Id : 7614462171 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 among the following is a fire tube boiler?

Options :

7614468641. ✔ Cochran boiler

7614468642. ✖ Benson boiler

7614468643. ✖ Babcock and Wilcox boiler

7614468644. ✖ Loeffler boiler

Question Number : 162 Question Id : 7614462172 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 flow through nozzle, critical pressure ratio of steam which is initially superheated is

Options :

7614468645. ✖ 1.3

7614468646. ✖ 1.135

7614468647. ✔ 0.546

7614468648. ✖ 0.58

Question Number : 163 Question Id : 7614462173 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

De Laval turbine is an example of

Options :

7614468649. ✖ Reaction turbine

7614468650. ✖ 50 % Reaction turbine

7614468651. ✔ Impulse turbine

7614468652. ✖ Impulse – Reaction turbine

Question Number : 164 Question Id : 7614462174 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 mass flow rate of steam through an impulse turbine is 3600 kg per hour. The whirl component of velocity at inlet is 800 ms^{-1} and at outlet is 200 ms^{-1}, while the mean blade velocity is 400 ms^{-1}. The power developed by the turbine is

Options :

7614468653. ✖ 400 W

7614468654. ✔ 400 kW

7614468655. ✖ 240 W

7614468656. ✖ 240 kW

Question Number : 165 Question Id : 7614462175 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Vacuum in steam condenser is 670 mm Hg and barometer reading is 764 mm Hg. If standard barometric pressure is 760 mm Hg, the condenser vacuum corrected to standard barometer is

Options :

7614468657. ✖ 660 mm Hg

7614468658. ✔ 666 mm Hg

7614468659. ✖ 768 mm Hg

7614468660. ✖ 674 mm Hg

Question Number : 166 Question Id : 7614462176 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 size of a Cam depends upon _____

Options :

7614468661. ✖ Pitch Circle

7614468662. ✔ Base Circle

7614468663. ✖ Pitch Curve

7614468664. ✖ Prime Circle

Question Number : 167 Question Id : 7614462177 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

One tonne of refrigeration is defined as

Options :

7614468665. ✔ The rate of heat removal from the surroundings equivalent to the heat required for melting 1 tonne of ice in a day

7614468666. ✖ The rate of heat removal from the surroundings equivalent to the heat required for melting 2 tonne of ice in a day

7614468667. ✖ The rate of heat removal from the surroundings equivalent to the heat required for melting 0.5 tonne of ice in a day

7614468668. ✖ The rate of heat removal from the surroundings equivalent to the heat required for melting 1.5 tonne of ice in a day

Question Number : 168 Question Id : 7614462178 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is not a desirable property of refrigerant

Options :

7614468669. ✖ Low freezing temperature

7614468670. ✔ High boiling point temperature

7614468671. ✖ Low specific volume

7614468672. ✖ High critical temperature

Question Number : 169 Question Id : 7614462179 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 vapour compression cycle, where do we find the lowest temperature?

Options :

7614468673. ✔ Evaporator

7614468674. ✖ Condenser

7614468675. ✖ Expansion valve

7614468676. ✖ Compressor

Question Number : 170 Question Id : 7614462180 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Before entering the expansion or the throttle valve, a refrigerant's condition in any vapour compression system is

Options :

7614468677. ✖ Dry vapour

7614468678. ✖ Very wet vapour

7614468679. ✔ High Pressure saturated liquid

7614468680. ✖ Moist vapour

Question Number : 171 Question Id : 7614462181 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 of a washer is

Options :

7614468681. ✖ Provide smooth surface in place of rough surface

7614468682. ✖ To provide cushioning effect

7614468683. ✖ To absorb shocks and vibrations

7614468684. ✔ To provide bearing area

Question Number : 172 Question Id : 7614462182 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

COP of Bell column refrigeration cycle is

Options :

7614468685. ✔ Less than 1

7614468686. ✖ Greater than 1

7614468687. ✖ In between 2 to 2.5

7614468688. ✖ Greater than 2.5

Question Number : 173 Question Id : 7614462183 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 comfort air zone, what should be the Relative humidity range in percentage

Options :

7614468689. ✖ 20-30

7614468690. ✖ 10-20

7614468691. ✔ 40-60

7614468692. ✖ 30-40

Question Number : 174 Question Id : 7614462184 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 vapour absorption refrigeration system

Options :

7614468693. ✖ Has a noisy operation

7614468694. ✔ Has a quiet operation

7614468695. ✖ Uses high grade energy

7614468696. ✖ COP decreases considerably with decrease in evaporator pressure

Question Number : 175 Question Id : 7614462185 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Desert cooler is most suited in climate having

Options :

7614468697. ✖ Low temperature and low humidity

7614468698. ✖ High temperature and high humidity

7614468699. ✔ High temperature and low humidity

7614468700. ✖ Low temperature and high humidity

Question Number : 176 Question Id : 7614462186 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The property of a fluid which offers resistance to the movement of one layer of fluid over another adjacent layer of fluid is called as

Options :

7614468701. ✔ Viscosity

7614468702. ✖ Capillarity

7614468703. ✖ Specific Gravity

7614468704. ✖ Density

Question Number : 177 Question Id : 7614462187 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 type of flow in which the density of fluid changes from point to point is called as

Options :

7614468705. ✖ Laminar

7614468706. ✖ Incompressible

7614468707. ✔ Compressible

7614468708. ✖ Turbulent

Question Number : 178 Question Id : 7614462188 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 line which gives the sum of pressure head and datum head of a flowing fluid in a pipe with respect to some reference line is called as

Options :

7614468709. ✖ Potential Line

7614468710. ✖ Total Energy line

7614468711. ✖ Kinetic line

7614468712. ✔ Hydraulic Gradient line

Question Number : 179 Question Id : 7614462189 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is not a minor energy loss

Options :

7614468713. ✖ Loss due to pipe bend

7614468714. ✖ Loss due to sudden expansion

7614468715. ✔ Friction loss

7614468716. ✖ Loss due to obstruction in Pipe

Question Number : 180 Question Id : 7614462190 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 speed at which a turbine runs when it is working under a unit head and develops unit power is called as

Options :

7614468717. ✖ Maximum speed

7614468718. ✖ Unit speed

7614468719. ✔ Specific speed

7614468720. ✖ Minimum Speed

Question Number : 181 Question Id : 7614462191 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The work saved by fitting an air vessel to a single acting reciprocating pump is

Options :

7614468721. ✖ 28.9%

7614468722. ✖ 39.2%

7614468723. ✖ 48.8%

7614468724. ✔ 84.8%

Question Number : 182 Question Id : 7614462192 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 specific speed of a centrifugal pump is given by

Options :

7614468725. ✔ $\frac{N\sqrt{Q}}{Hm^{3/4}}$

7614468726. ✖ $\frac{N\sqrt{P}}{Hm^{5/4}}$

7614468727. ✖ $\frac{N\sqrt{Q}}{Hm^{5/4}}$

7614468728. ✖ $\frac{N\sqrt{H}}{Q^{3/4}}$

Question Number : 183 Question Id : 7614462193 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 arrangement of turbines in the ascending order of the specific speed is

Options :

7614468729. ✔ Pelton , Francis , Kaplan

7614468730. ✖ Francis , Kaplan, Pelton

7614468731. ✖ Pelton , Kaplan, Francis

7614468732. ✖ Kaplan, Francis, Pelton

Question Number : 184 Question Id : 7614462194 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 number of buckets on a Runner of a Pelton Turbine in terms of Jet Ratio 'm' is

Options :

7614468733. ✖ $15 + 5m$

7614468734. ✖ 15 - 5m

7614468735. ✔ 15 + 0.5m

7614468736. ✖ 15 - 0.5m

Question Number : 185 Question Id : 7614462195 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 axial flow reaction turbine

Options :

7614468737. ✖ Francis Turbine

7614468738. ✔ Kaplan Turbine

7614468739. ✖ Pelton Turbine

7614468740. ✖ Reynolds Turbine

Question Number : 186 Question Id : 7614462196 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 stress-strain diagram for a mild steel under tensile test, which order among the following is correct?

a) Proportional limit

b) Yield point

c) Ultimate stress

d) Breaking stress

Options :

7614468741. ✔ a, b, c, d

7614468742. ✖ b, a, c, d

7614468743. ✖ b, c, a, d

7614468744. ✖ a, c, b, d

Question Number : 187 Question Id : 7614462197 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 a load is applied to a beam, the longitudinal strain and lateral strain was found to be $2*10^{-3}$ and $6*10^{-4}$ respectively. Its Poisson's ratio is

Options :

7614468745. ✖ 30

7614468746. ✖ 3

7614468747. ✔ 0.3

7614468748. ✖ 0.03

Question Number : 188 Question Id : 7614462198 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Slope of stress strain curve in elastic deformation region is called as

Options :

7614468749. ✖ Poisson's ratio

7614468750. ✔ Young's modulus

7614468751. ✖ Ultimate stress

7614468752. ✖ Yield stress

Question Number : 189 Question Id : 7614462199 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Moment of inertia of any body

Options :

7614468753. ✖ Can never be positive

7614468754. ✖ Is sometimes negative

7614468755. ✖ May be positive or negative depending upon the location

7614468756. ✔ Can never be negative

Question Number : 190 Question Id : 7614462200 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 C.G. of a quadrant of a circle of radius r is at a distance of

Options :

7614468757. ✖ $3r/4\pi$ from any of the axis

7614468758. ✔ $4r/3\pi$ from any of the axis

7614468759. ✖ $3r/2\pi$ from any of the axis

7614468760. ✖ $3r/8\pi$ from any of the axis

Question Number : 191 Question Id : 7614462201 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 shape of the bending moment diagram for a uniform cantilever beam carrying a uniformly distributed load over its length is

Options :

7614468761. ✖ A straight line

7614468762. ✖ A hyperbola

7614468763. ✖ An Ellipse

7614468764. ✔ A Parabola

Question Number : 192 Question Id : 7614462202 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Young's modulus of elasticity and Poisson's ratio of a material are 1.25×10^5 MPa and 0.25 respectively. The modulus of rigidity of the material is

Options :

7614468765. ✖ 5×10^5 MPa

7614468766. ✔ 0.5×10^5 MPa

7614468767. ✖ 50×10^5 MPa

7614468768. ✖

$5000 \text{ X } 10^5 \text{ MPa}$

Question Number : 193 Question Id : 7614462203 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 cantilever beam, if the length is doubled while keeping the cross section, Young's modulus and the concentrated load acting at the free end the same, the deflection at the free end will increase by

Options :

7614468769. ✖ 4 times

7614468770. ✖ 6 times

7614468771. ✖ 16 times

7614468772. ✔ 8 times

Question Number : 194 Question Id : 7614462204 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 a shaft is increased from 30 mm to 60 mm, with all other conditions remaining unchanged. How many times is its torque-carrying capacity increased?

Options :

7614468773. ✖ 4 times

7614468774. ✖ 6 times

7614468775. ✔ 8 times

7614468776. ✖ 16 times

Question Number : 195 Question Id : 7614462205 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 resultant of two forces has the same magnitude as either of the force, then the angle between the forces is (in degrees)

Options :

7614468777. ✖ 30

7614468778. ✖ 45

7614468779. ✖ 60

7614468780. ✔ 120

Question Number : 196 Question Id : 7614462206 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 line shaft rotating at 180 RPM is to transmit 2π kW. The shaft may be assumed to be made of mild steel with an allowable shear stress of 42 MPa. Determine the torque transmitted by the shaft

Options :

7614468781. ✔ 333.33 N-m

7614468782. ✖ 666.66 N-m

7614468783. ✖ 999.99 N-m

7614468784. ✖ 333.33 N-mm

Question Number : 197 Question Id : 7614462207 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 thickness of the rectangular sunk key is

Options :

7614468785. ✖ d / 4

7614468786. ✖ d / 2

7614468787. ✖ d / 8

7614468788. ✔ d / 6

Question Number : 198 Question Id : 7614462208 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which one of the following is a flexible coupling

Options :

7614468789. ✖ Flange coupling

7614468790. ✖ Muff coupling

7614468791. ✔ Bushed pin type coupling

7614468792. ✖ Split-muff coupling

Question Number : 199 Question Id : 7614462209 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which one of the following is used to convert a rotational motion into translational motion

Options :

7614468793. ✖ Bevel gears

7614468794. ✖ Double helical gears

7614468795. ✖ Worm gear

7614468796. ✔ Rack and pinion gears

Question Number : 200 Question Id : 7614462210 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 a bolt and nut is made of mild steel, then the effective height of the nut is made _____ the nominal diameter of the bolt.

Options :

7614468797. ✖ 2 times

7614468798. ✖ 0.5 times

7614468799. ✔ Equal to

7614468800. ✖ 1.5 times