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 1st Aug 2022 Shift2
Subject Name :	Mechanical Engineering
Creation Date :	2022-08-01 18:29:53
Duration :	180
Total Marks :	200
Display Marks:	No
Calculator :	None
Magnifying Glass Required? :	No
Ruler Required? :	No
Eraser Required? :	No
Scratch Pad Required? :	No
Rough Sketch/Notepad Required? :	No
Protractor Required? :	No
Show Watermark on Console? :	Yes
Highlighter :	No
Auto Save on Console?	Yes
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 :	81959970
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 :	819599270
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 :	819599312
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 81959913836 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $A = \begin{bmatrix} a^2 & ab & ac \\ ab & b^2 & bc \\ ac & bc & c^2 \end{bmatrix}$ and $a^2 + b^2 + c^2 = 1$ then $A^2 =$

Options :

1. ✖ I

2. ✔ A

3. ✖ A^{-1}

4. ✖ A^3

Question Number : 2 Question Id : 81959913837 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $adjA = \begin{bmatrix} 1 & -1 & 0 \\ 2 & 3 & 1 \\ 2 & 1 & -1 \end{bmatrix}$ then $adj\ 2A =$

Options :

1. ✖ $\begin{bmatrix} 1 & -1 & 0 \\ 2 & 3 & 1 \\ 2 & 1 & -1 \end{bmatrix}$

2. ✖ $\begin{bmatrix} 2 & -2 & 0 \\ 4 & 6 & 2 \\ 4 & 2 & -2 \end{bmatrix}$

3. ✔ $\begin{bmatrix} 4 & -4 & 0 \\ 8 & 12 & 4 \\ 8 & 4 & -4 \end{bmatrix}$

4. ✖ $\begin{bmatrix} 8 & -8 & 0 \\ 16 & 24 & 8 \\ 16 & 8 & -8 \end{bmatrix}$

Question Number : 3 Question Id : 81959913838 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If a, b and c are distinct and $\begin{vmatrix} a & a^2 & a^3-1 \\ b & b^2 & b^3-1 \\ c & c^2 & c^3-1 \end{vmatrix} = 0$ then

Options :

1. ✖ $a+b+c=1$

2. ✖ $a+b+c=0$

3. ✖ $ab+bc+ca=0$

4. ✔ $abc=1$

Question Number : 4 Question Id : 81959913839 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 System of linear equations $x+y+z=2,\ 2x+y-z=3$ and $3x+2y+kz=4$ has a unique solution if

Options :

1. ✔ $k \neq 0$

2. ✖ $-1 < k < 1$

3. ✖ $-2 < k < 2$

4. ✖ $k = 0$

Question Number : 5 Question Id : 81959913840 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$\frac{1-x+6x^2}{x-x^3} = \frac{A}{x} + \frac{B}{1-x} + \frac{C}{1+x}$ then $A - B =$

Options :

1. ✖ -1

2. ✖ -4

3. ✖ -3

4. ✔ -2

Question Number : 6 Question Id : 81959913841 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$\frac{ax+b}{(3x+4)^2} = \frac{1}{3x+4} - \frac{3}{(3x+4)^2}$ then $a + b =$

Options :

1. ✖ 3

2. ✔ 4

3. ✖ 5

4. ✖ 6

Question Number : 7 Question Id : 81959913842 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The Period of $cos(x + 2x + 3x + \cdots + nx)$

Options :

1. ✖ $2\pi(n+1)$

2. ✔ $\frac{4\pi}{n(n+1)}$

3. ✖ $\frac{2\pi}{n(n+1)}$

4. ✖ 2π

Question Number : 8 Question Id : 81959913843 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $3sin\alpha = 5sin\beta$ then $\frac{tan\left(\frac{\alpha+\beta}{2}\right)}{tan\left(\frac{\alpha-\beta}{2}\right)} =$

Options :

1. ✖ 1

2. ✖ 2

3. ✖ 3

4. ✔ 4

Question Number : 9 Question Id : 81959913844 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $x = sin(2tan^{-1}2)$ and $y = sin\left(\frac{1}{2}tan^{-1}\left(\frac{4}{3}\right)\right)$ then

Options :

1. ✔ $x > y \text{ and } y^2 = 1 - \text{x}$

2. ✖ $x < y$

3. ✖ $x > y \text{ and } y^2 = \text{x}$

4. ✖ $y^2 = 1 + \text{x}$

Question Number : 10 Question Id : 81959913845 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

General solution of $tan5\theta tan2\theta = 1$ *is*

Options :

1. ✔ $\frac{2n\pi}{7} \pm \frac{\pi}{14}, n \in Z$

2. ✖ $\frac{n\pi}{7}, n \in Z$

3. ✖ $n\pi \pm \frac{\pi}{2}, n \in Z$

4. ✖ $\frac{n\pi}{2} \pm \frac{\pi}{14}, n \in Z$

Question Number : 11 Question Id : 81959913846 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In a ΔABC, if $(a + b + c)(b + c - a) = 3bc$ then $\angle A =$

Options :

1. ✖ 30^0

2. ✖ 45^0

3. ✔ 60^0

4. ✖ 135^0

Question Number : 12 Question Id : 81959913847 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $\left(\sqrt{3}+i\right)^{100} = 2^{99}(a+ib)$, then $a^2+b^2 =$

Options :

1. ✔ 4

2. ✖ 1

3. ✖ 3

4. ✖ 2

Question Number : 13 Question Id : 81959913848 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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" so that the line through (3,x) and (2,7) is parallel to the line through (-1,4) and (0,6) is

Options :

1. ✖ 3

2. ✖ 6

3. ✔ 9

4. ✖ 8

Question Number : 14 Question Id : 81959913849 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 centre $\left(\frac{a}{2},\frac{b}{2}\right)$ and radius $\sqrt{\frac{a^2+b^2}{4}}$ is

Options :

1. ✖ $x^2+y^2-ax-by=(a+b)^2$

2. ✔ $x^2+y^2-ax-by=0$

3. ✖ $x^2+y^2-ax-by=(a-b)^2$

4. ✖ $x^2+y^2-ax-by=\frac{a^2+b^2}{4}$

Question Number : 15 Question Id : 81959913850 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 parabola $y^2=4ax$ passes through the point (-3,2), then the length of its latus rectum is _____ units

Options :

1. ✖ $\frac{2}{3}$

2. ✔ $\frac{4}{3}$

3. ✖ $\frac{1}{3}$

4. ✖ 4

Question Number : 16 Question Id : 81959913851 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 ellipse whose latus rectum is 15units and the distance between the foci is 10 units with axes being co ordinate axes is

Options :

1. ✔ $3x^2 + 4y^2 = 300$

2. ✖ $4x^2 + 3y^2 = 300$

3. ✖ $x^2 + 4y^2 = 300$

4. ✖ $3x^2 + y^2 = 300$

Question Number : 17 Question Id : 81959913852 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The eccentricity of the Hyperbola $xy = 10$ *is*

Options :

1. ✔ $\sqrt{2}$

2. ✖ 2

3. ✖ $\sqrt{3}$

4. ✖ $\sqrt{\frac{3}{2}}$

Question Number : 18 Question Id : 81959913853 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$\underset{x \to 1}{\text{Lt}} \frac{1+logx-x}{1-2x+x^2} =$

Options :

1. ✖ 0

2. ✔ $-\frac{1}{2}$

3. ✖ 1

4. ✖ -1

Question Number : 19 Question Id : 81959913854 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $2^x + 2^y = 2^{x+y}$ then $\frac{dy}{dx} =$

Options :

1. ✖ 0

2. ✖ 1

3. ✔ -2^{y-x}

4. ✖ 2^{x-y}

Question Number : 20 Question Id : 81959913855 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $y = \sqrt{cos2x}$ then $y\frac{d^2y}{dx^2} + 2y^2 =$

Options :

1. ✖ 0

2. ✖ $\left(\frac{dy}{dx}\right)^2$

3. ✔ $-\left(\frac{dy}{dx}\right)^2$

4. ✖ $y\left(\frac{dy}{dx}\right)$

Question Number : 21 Question Id : 81959913856 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $u = e^x cosy,$ and $v = e^x siny$ then $\frac{\partial u}{\partial x} =$

Options :

1. ✖ $\frac{\partial u}{\partial y}$

2. ✖ $\frac{-\partial u}{\partial y}$

3. ✖ $\frac{-\partial v}{\partial y}$

4. ✔ $\frac{\partial v}{\partial y}$

Question Number : 22 Question Id : 81959913857 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Area of the triangle formed by a tangent to the curve $2xy = a^2$ and coordinate axes is _____ units

Options :

1. ✔ a^2

2. ✖ $2a^2$

3. ✖ $3a^2$

4. ✖ $4a^2$

Question Number : 23 Question Id : 81959913858 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The Maximum value of x^{-x} is

Options :

1. ✖ $\frac{1}{e}$

2. ✔ $e^{1/e}$

3. ✖ $e^{-1/e}$

4. ✖ e

Question Number : 24 Question Id : 81959913859 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The rate of change of volume of a sphere is equal to the rate of change of its radius. Then its radius is

Options :

1. ✖ $\frac{1}{2\pi}$

2. ✖ $2\sqrt{\pi}$

3. ✖ $\sqrt{2\pi}$

4. ✔ $\frac{1}{2\sqrt{\pi}}$

Question Number : 25 Question Id : 81959913860 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$\int cos\sqrt{x}\ dx$

Options :

1. ✔ $2(\sqrt{x}\sin\sqrt{x} + \cos\sqrt{x})$

2. ✖ $\sqrt{x}\sin\sqrt{x} - \cos\sqrt{x}$

3. ✖ $2(\sqrt{x}\sin\sqrt{x} - \cos\sqrt{x})$

4. ✖ $\frac{\cos\sqrt{x}}{2\sqrt{x}}$

Question Number : 26 Question Id : 81959913861 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$\int_0^{\frac{\pi}{2}} \frac{e^{\cos\theta}}{e^{\cos\theta}+e^{\sin\theta}}\, d\theta$

Options :

1. ✔ $\frac{\pi}{4}$

2. ✖ e^{π}

3. ✖ $\frac{\pi}{2}$

4. ✖ 0

Question Number : 27 Question Id : 81959913862 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 of the region enclosed by the curve $y = e^{x/a} + e^{-x/a}$ the x- axis and the lines $x = \pm a$ is _____ sq. units

Options :

1. ✖ $\left(e - \frac{1}{e}\right)$

2. ✔ $2a\left(e - \frac{1}{e}\right)$

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

4. ✖ $a\left(e-\frac{1}{e}\right)$

Question Number : 28 Question Id : 81959913863 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 volume generated by the rotation of the area bounded by the curve $y^2 = x^3$, the y- axis and the lines $y = 0, y = 8$ about y- axis is _____ cu. units

Options :

1. ✖ 192π

2. ✔ $\frac{384\pi}{7}$

3. ✖ $\frac{384\pi^2}{7}$

4. ✖ $\frac{384\pi}{5}$

Question Number : 29 Question Id : 81959913864 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 Mean Square Value of $f(x) = tanx$ as "x" varies from 0 to $\frac{\pi}{3}$

Options :

1. ✖ $\frac{1}{\pi}\left(\sqrt{3}-\frac{\pi}{3}\right)$

2. ✖ $\frac{1}{\pi}\left(\sqrt{3}+\frac{\pi}{3}\right)$

3. ✔ $\frac{1}{\pi}\left(3\sqrt{3}-\pi\right)$

4. ✖ $\frac{\pi}{3}\left(\sqrt{3}-\frac{\pi}{3}\right)$

Question Number : 30 Question Id : 81959913865 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The Values of function $f(x)$at 5 discrete points are given below

x	0	0.1	0.2	0.3	0.4
$f(x)$	0	10	40	90	160

then the value of $\int_0^4 f(x)dx$

Options :

1. ✖ 24

2. ✖ 23

3. ✔ 22

4. ✖ 20

Question Number : 31 Question Id : 81959913866 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The order and degree of the differential equation $\frac{d^2y}{dx^2}=\left(y+\left(\frac{dy}{dx}\right)^2\right)^{1/4}$ is

Options :

1. ✔ 2, 4

2. ✖ 4, 2

3. ✖ 2, 2

4. ✖ 2, 1

Question Number : 32 Question Id : 81959913867 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 associated with the primitive $Ax^2 + By^2 = 1$ is

Options :

1. ✖ $xy\frac{d^2y}{dx^2} + \left(\frac{dy}{dx}\right)^2 - x\left(\frac{dy}{dx}\right) = 0$

2. ✖ $y\frac{d^2y}{dx^2} + x\left(\frac{dy}{dx}\right)^2 - y\left(\frac{dy}{dx}\right) = 0$

3. ✔ $xy\frac{d^2y}{dx^2} + x\left(\frac{dy}{dx}\right)^2 - y\left(\frac{dy}{dx}\right) = 0$

4. ✖ $xy\frac{d^2y}{dx^2} - x\left(\frac{dy}{dx}\right)^2 + y\left(\frac{dy}{dx}\right) = 0$

Question Number : 33 Question Id : 81959913868 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Solution of the differential equation $(3e^{3x}y - 2x)dx + e^{3x}dy = 0$ is

Options :

1. ✖ $ye^{-3x} = x^2 + C$

2. ✔ $ye^{3x} = x^2 + C$

3. ✖ $ye^{3x} = -x^2 + C$

4. ✖ $ye^{3x} = \frac{1}{2}x^2 + C$

Question Number : 34 Question Id : 81959913869 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 Integrating Factor for the differential equation $\frac{dp}{dt} + k_2 p = k_1 e^{-k_1 t}$ is

Options :

1. ✖ $e^{-k_1 t}$

2. ✖ $e^{-k_2 t}$

3. ✖ $e^{k_1 t}$

4. ✔ $e^{k_2 t}$

Question Number : 35 Question Id : 81959913870 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $4\frac{d^2y}{dx^2} - 4\frac{dy}{dx} + y = 0$ is

Options :

1. ✖ $y = (A + Bx)e^{-x/2}$

2. ✔ $y = (A + Bx)e^{x/2}$

3. ✖ $y = Ae^{x/2} + Be^{-x/2}$

4. ✖ $y = (A + Bx)e^{x}$

Question Number : 36 Question Id : 81959913871 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $2\frac{d^2y}{dx^2} + \frac{dy}{dx} - 6y = e^{-2x}$ is

Options :

1. ✔ $-\frac{x}{7}e^{-2x}$

2. ✖ $\frac{x}{7}e^{-2x}$

3. ✖ $\frac{1}{7}e^{-2x}$

4. ✖ $-\frac{1}{7}e^{-2x}$

Question Number : 37 Question Id : 81959913872 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $\frac{d^3y}{dx^3} - 1 = sin3x$ is

Options :

1. ✖ $\frac{1}{730}(27\cos 3x + \sin 3x)$

2. ✔ $\frac{1}{730}(27\cos 3x - \sin 3x)$

3. ✖ $\frac{-1}{730}(27\cos 3x + \sin 3x)$

4. ✖ $\frac{-1}{730}(27\cos 3x - \sin 3x)$

Question Number : 38 Question Id : 81959913873 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $\frac{d^2y}{dx^2} - 3\frac{dy}{dx} + 2y = x + x^2$ is

Options :

1. ✔ $\frac{1}{2}(x^2 + 4x + 5)$

2. ✖ $\frac{1}{2}(x^2 - 4x - 5)$

3. ✖ $\frac{1}{2}(x^2 - 4x + 5)$

4. ✖ $-\frac{1}{2}(x^2 + 4x + 5)$

Question Number : 39 Question Id : 81959913874 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$L\{cos4tsin2t\} =$

Options :

1. ✖ $\frac{4}{s^2+4} + \frac{s}{s^2+36}$

2. ✔ $\frac{3}{s^2+36} - \frac{1}{s^2+4}$

3. ✖ $\frac{2}{s^2+4} + \frac{3s}{s^2+36}$

4. ✖ $\frac{3}{s^2+36} + \frac{1}{s^2+4}$

Question Number : 40 Question Id : 81959913875 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$L\left\{\frac{sint}{t}\right\} = tan^{-1}\left(\frac{1}{s}\right)$ then $L\left\{\frac{sinat}{t}\right\}$

Options :

1. ✖ $tan^{-1}\left(\frac{s}{a}\right)$

2. ✔ $tan^{-1}\left(\frac{a}{s}\right)$

3. ✖ $\frac{1}{a}tan^{-1}\left(\frac{a}{s}\right)$

4. ✖ $\frac{1}{a}tan^{-1}\left(\frac{s}{a}\right)$

Question Number : 41 Question Id : 81959913876 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$L\{tcos3t\} =$

Options :

1. ✖ $\frac{9}{(s^2+9)^2}$

2. ✖ $\frac{s^2}{(s^2+9)^2}$

3. ✖ $\frac{s^2+9}{(s^2-9)^2}$

4. ✔ $\frac{s^2-9}{(s^2+9)^2}$

Question Number : 42 Question Id : 81959913877 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ $log\sqrt{\frac{s^2+1}{s^2}}$

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

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

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

Question Number : 43 Question Id : 81959913878 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$L^{-1}\left(\frac{s}{(s+1)^2}\right) =$

Options :

1. ✔ $e^{-t}(1-t)$

2. ✖ $e^{t}(t-1)$

3. ✖ $e^{-t}(t-1)$

4. ✖ $e^{t}(1-t)$

Question Number : 44 Question Id : 81959913879 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $L^{-1}\{F(s)\} = f(t)$ then $L^{-1}\left\{\int_s^{\infty} F(s)ds\right\} =$

Options :

1. ✖ $f'(t)$

2. ✖ $tf'(t)$

3. ✖ $tf(t)$

4. ✔ $\frac{f(t)}{t}$

Question Number : 45 Question Id : 81959913880 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 system is described by the differential equation $\frac{d^2y}{dt^2} + 4\frac{dy}{dt} + 5y = 0$

assuming $y(0) = 0, y'(0) = 0$ then $L\{y(t)\}$

Options :

1. ✖ $\frac{1}{s(s^2+4s+5)}$

2. ✖ $\frac{s}{(s^2+4s+5)}$

3. ✖ $\frac{5}{(s^2+4s+5)}$

4. ✔ $\frac{5}{s(s^2+4s+5)}$

Question Number : 46 Question Id : 81959913881 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

$L^{-1}\left(\frac{1}{s(s^2+a^2)}\right) =$

Options :

1. ✖ $\frac{1-sinat}{a^2}$

2. ✖ $\frac{1+cosat}{a^2}$

3. ✔ $\frac{1-cosat}{a^2}$

4. ✖ $\frac{1+sinat}{a^2}$

Question Number : 47 Question Id : 81959913882 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 Fourier series expansion of $f(x) = |sinx|$ over $(-l, l)$,

the value of $b_n =$

Options :

1. ✔ 0

2. ✖ $\frac{2}{l(n^2-1)}$

3. ✖ $\frac{4}{l(n^2-1)}$

4. ✖ $\frac{4}{l(1-n^2)}$

Question Number : 48 Question Id : 81959913883 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 $f(x) = \begin{cases} 0, -\pi < x < 0 \\ x^2, \ 0 < x < \pi \end{cases}$ and

$f(x) = \frac{a_0}{2} + \sum_{n=1}^{\infty}(a_n cosnx + b_n sinnx)$ then $a_0 =$

Options :

1. ✖ $\frac{\pi}{3}$

2. ✖ $\frac{3}{\pi}$

3. ✔ $\frac{\pi^2}{3}$

4. ✖ $\frac{\pi^2}{2}$

Question Number : 49 Question Id : 81959913884 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 Half range cosine series expansion of the function $f(x) = x - x^2,\ 0 < x < 1$ is represented by $a_2 =$

Options :

1. ✔ $-\frac{4}{\pi^2}$

2. ✖ $\frac{4}{\pi^2}$

3. ✖ $\frac{1}{\pi^2}$

4. ✖ $-\frac{1}{\pi^2}$

Question Number : 50 Question Id : 81959913885 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 "b_4" in the Fourier series expansion of $f(x) = 3x^2 - 2$ in $(-3,3)$ is_____

Options :

1. ✖ 14

2. ✖ $\frac{-108}{\pi^2}$

3. ✖ $\frac{108}{\pi^2}$

4. ✔ 0

Physics

Section Id :	819599271
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 :	819599313
Question Shuffling Allowed :	Yes

Question Number : 51 Question Id : 81959913886 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 dimensional formula for kinetic energy is

Options :

1. ✖ $M^0L^0T^0$

2. ✔ $M^1L^2T^{-2}$

3. ✖ $M^1L^2T^{-1}$

4. ✖ $M^1L^1T^{-2}$

Question Number : 52 Question Id : 81959913887 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 photoelectric effect, the photo current

Options :

1. ✖ depends both on intensity and frequency of incident light

2. ✔ does not depends on the frequency of photon but depends only on intensity of incident light

3. ✖ decreases with increase of frequency of incident photon

4. ✖ increases with increase of frequency of incident photon

Question Number : 53 Question Id : 81959913888 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 fibers uses the phenomenon of

Options :

1. ✔ total internal reflection

2. ✖ refraction

3. ✖ dispersion

4. ✖ scattering

Question Number : 54 Question Id : 81959913889 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 volume of 1 mole of an ideal gas at STP

Options :

1. ✔ $2.24 \times 10^{-2} m^3$

2. ✖ $2.24 \times 10^{-3} m^3$

3. ✖ $2.42 \times 10^{-3} m^3$

4. ✖ $24.2 \times 10^{-3} m^3$

Question Number : 55 Question Id : 81959913890 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following statement is correct in the case of an isothermal process of a gas

Options :

1. ✖ Temperature changes

2. ✔ Exchange of heat takes place between gas and surroundings

3. ✖ Boyle's law does not valid

4. ✖ It is a quick process

Question Number : 56 Question Id : 81959913891 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 angle between $\overrightarrow{P}$ and the resultant of $(\overrightarrow{P}+\vec{Q})$ and $(\vec{P}-\vec{Q})$

Options :

1. ✖ $\tan^{-1}\frac{(P-Q)}{(P+Q)}$

2. ✖ $\tan^{-1}(\frac{P}{Q})$

3. ✖ $\tan^{-1}(\frac{Q}{P})$

4. ✔ Zero

Question Number : 57 Question Id : 81959913892 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 magnitudes of scalar and vector products of two vectors are 6 and $6\sqrt{3}$ respectively, then the angle between the vectors

Options :

1. ✖ 15^0

2. ✖ 30^0

3. ✔ 60^0

4. ✖ 75^0

Question Number : 58 Question Id : 81959913893 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 equal forces (F each) act at a point inclined to each other at an angle of 120^0.

The magnitude of their resultant is

Options :

1. ✖ F/2

2. ✖ F/4

3. ✔ F

4. ✖ 2F

Question Number : 59 Question Id : 81959913894 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 quantity which remains unchanged during the flight of an oblique projectile is

Options :

1. ✖ Horizontal distance

2. ✖ Vertical distance

3. ✖ Vertical component of velocity

4. ✔ Horizontal component of velocity

Question Number : 60 Question Id : 81959913895 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

An object is thrown along a direction inclined at angle of 45^0 with the horizontal.

If 'R' represents horizontal range and 'H' represents vertical height of object,

which of the following is correct

Options :

1. ✖ R=H

2. ✖ R=2H

3. ✖ R=3H

4. ✔ R=4H

Question Number : 61 Question Id : 81959913896 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 bullet is fired with a velocity 10 m/s making an angle of 60^0 with the horizontal plane.

The horizontal component of the velocity of bullet when it reaches maximum height is

Options :

1. ✖ 10 m/s

2. ✖ 0

3. ✖ 8 m/s

4. ✔ 5 m/s

Question Number : 62 Question Id : 81959913897 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 μ_s, μ_k, μ_r are coefficients of static friction, sliding friction and rolling friction, then

Options :

1. ✔ $\mu_r < \mu_k < \mu_s$

2. ✖ $\mu_k < \mu_r < \mu_s$

3. ✖ $\mu_k < \mu_s < \mu_r$

4. ✖ $\mu_s = \mu_k = \mu_r$

Question Number : 63 Question Id : 81959913898 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 body falling from a height of 10 metre rebounds from a hard floor. If it loses 20% of its energy in impact, it will rise

Options :

1. ✖ 10m

2. ✔ 8m

3. ✖ 5m

4. ✖ 12m

Question Number : 64 Question Id : 81959913899 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 body of mass 10 kg is travelling with uniform speed of 5m/s. Its kinetic energy is

Options :

1. ✖ 25 J

2. ✔ 125 J

3. ✖ 1250 J

4. ✖ 1000 J

Question Number : 65 Question Id : 81959913900 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 stone is thrown up vertically and returns to ground, its potential energy is maximum

Options :

1. ✖ During upward journey

2. ✔ At the maximum height

3. ✖ During return journey

4. ✖ On the ground

Question Number : 66 Question Id : 81959913901 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 second's pendulum is taken from earth to moon. If it is to act as a second's pendulum there also, the length of the pendulum

Options :

1. ✖ Should be increased

2. ✔ Should be decreased

3. ✖ Need not be changed

4. ✖ Difficult to imagine

Question Number : 67 Question Id : 81959913902 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 simple harmonic motion, the maximum acceleration and maximum velocity are $31.4m/s^2$ and 10m/s. The time period is

Options :

1. ✖ 4s

2. ✖ 3s

3. ✔ 2s

4. ✖ 0.5s

Question Number : 68 Question Id : 81959913903 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A person standing between two hills fires a gun. He hears first echo after 1 second and second echo after 2 second. If velocity of sound in air is 340m/s, the distance between the hills is

Options :

1. ✖ 170m

2. ✖ 340m

3. ✔ 510m

4. ✖ 1020m

Question Number : 69 Question Id : 81959913904 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 tuning forks of frequencies 256 and 258 vibrations /second are sounded together. Then the time interval between two consecutive maxima heard by an observer is

Options :

1. ✖ 2 s

2. ✔ 0.5 s

3. ✖ 250 s

4. ✖ 252 s

Question Number : 70 Question Id : 81959913905 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

According to Hooks law, the relation between stress and strain is

Options :

1. ✔ Stress α Strain

2. ✖ Stress $\alpha \frac{1}{Strain}$

3. ✖ Stress α $(Strain)^2$

4. ✖ Stress α $(Strain)^{\frac{1}{2}}$

Question Number : 71 Question Id : 81959913906 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

An iron needle slowly placed on surface of water floats on it because

Options :

1. ✖ of elasticity

2. ✖ of viscosity

3. ✔ of surface tension

4. ✖ of its shape

Question Number : 72 Question Id : 81959913907 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 happens to the force between magnetic poles when their pole strength and the distance between them are both doubled

Options :

1. ✖ Force increases by two times

2. ✔ Force remains unchanged

3. ✖ Force becomes halved

4. ✖ Force increases by four times

Question Number : 73 Question Id : 81959913908 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Substances which when placed in a magnetic field acquire feeble magnetisation in a direction opposite to that of the applied field are called

Options :

1. ✔ Diamagnetic substances

2. ✖ Paramagnetic substances

3. ✖ Ferromagnetic substances

4. ✖ Ferrimagnetic substances

Question Number : 74 Question Id : 81959913909 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 wire of length 'L' and diameter 'D' is R Ω. The resistance of another wire of same material having length 'L' and diameter $\frac{D}{2}$ is _____ Ω.

Options :

1. ✖ $\frac{1}{2}$R

2. ✖ 2R

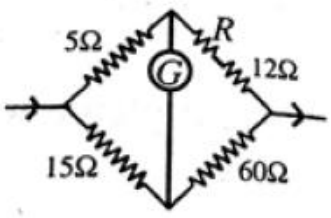
3. ✔ 4R

4. ✖ 16R

Question Number : 75 Question Id : 81959913910 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

To balance the bridge in the circuit, the value of R is



Options :

1. ✔ 8 Ω

2. ✖ $4\ \Omega$

3. ✖ $20\ \Omega$

4. ✖ $12\ \Omega$

Chemistry

Section Id :	819599272
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 :	819599314
Question Shuffling Allowed :	Yes

Question Number : 76 Question Id : 81959913911 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 electrons present in outermost shell of copper atom is

Options :

1. ✖ 2

2. ✔ 1

3. ✖ 18

4. ✖ 11

Question Number : 77 Question Id : 81959913912 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 bond exists between NH_3 and H^+ in NH_4^+ is

Options :

1. ✖ Ionic

2. ✖ Covalent

3. ✔ Coordinate covalent

4. ✖ Metallic

Question Number : 78 Question Id : 81959913913 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Possible all oxidation numbers of hydrogen are

Options :

1. ✖ -1 and 0

2. ✖ +1 and 0

3. ✖ +1 and -1

4. ✔ +1, -1 and 0

Question Number : 79 Question Id : 81959913914 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Molecular weight of a dibasic acid is M. Its equivalent weight is

Options :

1. ✖ M

2. ✔ $M/2$

3. ✖ 2M

4. ✖ M+2

Question Number : 80 Question Id : 81959913915 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Lyophobic colloids are

Options :

1. ✔ required stabilisers

2. ✖ prepared by direct mixing

3. ✖ more stable

4. ✖ solvent attracting colloids

Question Number : 81 Question Id : 81959913916 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 not a Lewis acid

Options :

1. ✔ HCl

2. ✖ BF_3

3. ✖ Mg^{2+}

4. ✖ SO_2

Question Number : 82 Question Id : 81959913917 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 with more pH value

Options :

1. ✖ 0.1 M HCl

2. ✖ 0.5 M HCl

3. ✖ 0.1 M NaOH

4. ✔ 0.5 M NaOH

Question Number : 83 Question Id : 81959913918 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Froth floatation is used concentrate _____ ores

Options :

1. ✖ oxide

2. ✖ carbonate

3. ✔ sulphide

4. ✖ chloride

Question Number : 84 Question Id : 81959913919 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 element is not present in German silver

Options :

1. ✔ Fe

2. ✖ Ni

3. ✖ Cu

4. ✖ Zn

Question Number : 85 Question Id : 81959913920 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 device that converts the energy of combustion of fuels like hydrogen and methane directly into electrical energy is known as

Options :

1. ✖ Electrolytic cell

2. ✖ Leclanche cell

3. ✔ Fuel cell

4. ✖ Ni- Cd cell

Question Number : 86 Question Id : 81959913921 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Anode used in the electrolytic refining of copper is

Options :

1. ✖ Pt

2. ✔ Impure Cu

3. ✖ Graphite

pure copper

4. ✖

Question Number : 87 Question Id : 81959913922 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 Faradays of current required to decompose 36 grams of water completely

Options :

1. ✖ 2

2. ✔ 4

3. ✖ 3

4. ✖ 6

Question Number : 88 Question Id : 81959913923 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 atomic weight of Cu is x, the electrochemical equivalent of Cu in the solution of copper sulphate is

Options :

1. ✖ $\frac{2x}{F}$

2. ✔ $\frac{x}{2F}$

3. ✖ $\frac{x}{F}$

4. ✖ xF

Question Number : 89 Question Id : 81959913924 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Rate of corrosion increases with

Options :

1. ✖ decrease of temperature

2. ✖ decrease of humidity

3. ✔ reactivity of metal

4. ✖ purity of metal

Question Number : 90 Question Id : 81959913925 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Chemical formula of the rust is

Options :

1. ✔ $Fe_2O_3.XH_2O$

2. ✖ Fe_3O_4

3. ✖ $Fe_2(C_2O_4)_3$

4. ✖ $FeCl_3$

Question Number : 91 Question Id : 81959913926 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Exhausted permutit is regenerated by using

Options :

1. ✖ $CaCl_2$

2. ✖ HCl

3. ✔ $NaCl$

4. ✖ $MgSO_4$

Question Number : 92 Question Id : 81959913927 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Temporary hardness of water containing 16.2 mg of $Ca(HCO_3)_2$ and 7.3 mg of $Mg(HCO_3)_2$ per litre

Options :

1. ✖ 10 mg/lit

2. ✖ 5 mg/lit

3. ✔ 15 mg/lit

4. ✖ 20 mg/lit

Question Number : 93 Question Id : 81959913928 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 an example of

Options :

1. ✔ thermosetting plastic

2. ✖ fibre

3. ✖ thermoplastic

4. ✖ elastomer

Question Number : 94 Question Id : 81959913929 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 are monomers of butyl rubber

Options :

1. ✖ Butadiene and styrene

2. ✖ Chloroprene

3. ✖ Phenol and formaldehyde

4. ✔ Isobutylene and isoprene

Question Number : 95 Question Id : 81959913930 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Main gases present in producer gas

Options :

1. ✖ CO & H_2

2. ✖ CH_4 & CO_2

3. ✔ CO & N_2

4. ✖ H_2 & CH_4

Question Number : 96 Question Id : 81959913931 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 moles of oxygen required for combustion of 30 grams of ethane is

Options :

1. ✖ 7

2. ✖ 2

3. ✖ 2.5

4. ✔ 3.5

Question Number : 97 Question Id : 81959913932 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 layer of the atmosphere contains the ozone layer that absorbs of UV light?

Options :

1. ✔ Stratosphere

2. ✖ Troposphere

3. ✖ Mesosphere

4. ✖ Ionosphere

Question Number : 98 Question Id : 81959913933 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 contaminant among the following

Options :

1. ✖ SO_2

2. ✔ MIC

3. ✖ CO_2

4. ✖ CH_4

Question Number : 99 Question Id : 81959913934 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Gases responsible for depletion of Ozone layer are

Options :

1. ✖ CO_2, CFC, CH_4

2. ✖ SO_2, NO_2, CH_4

3. ✔ CFC, NO, Cl_2

4. ✖ CO, SO_2, CH_4

Question Number : 100 Question Id : 81959913935 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The most harmful air pollutant produced by automobiles is

Options :

1. ✖ SO_2

2. ✖ NO

3. ✔ CO

4. ✖ Cl_2

Mechanical Engineering

Section Id :	819599273
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 :	819599315
Question Shuffling Allowed :	Yes

Question Number : 101 Question Id : 81959913936 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 gas is at a pressure of 1 bar. It is equivalent to

Options :

1. ✔ 0.1 MPa

2. ✖ 1 kPa

3. ✖ $10\ kNm^{-2}$

4. ✖ 1 MPa

Question Number : 102 Question Id : 81959913937 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 any thermodynamic system undergoing cyclic process, the area of indicator diagram gives

Options :

1. ✖ heat transfer

2. ✖ mean effective pressure

3. ✔ work transfer

4. ✖ entropy

Question Number : 103 Question Id : 81959913938 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum

Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

An air compressor can be considered as an example of

Options :

1. ✖ closed system

2. ✖ isolated system

3. ✖ pure system

4. ✔ open system

Question Number : 104 Question Id : 81959913939 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 universal gas constant is

Options :

1. ✖ $8.314\ kJkg^{-1}K^{-1}$

2. ✔ $8.314\ kJ(kg\ mol)^{-1}K^{-1}$

3. ✖ $0.287\ \ kJkg^{-1}K^{-1}$

4. ✖ $0.287\ kJ(kg\ mol)^{-1}K^{-1}$

Question Number : 105 Question Id : 81959913940 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 thermodynamic cycle consists two processes. During first process heat supplied is 30 kJ and work done on system is 50 kJ and during the second process heat rejected is 10 kJ and work done by the system is 70 kJ. This cycle is

Options :

1. ✔ consistent with first law of thermodynamics.

2. ✖ not consistent with first law of thermodynamics.

3. ✖ consistent with kelvin plank's statement of second law of thermodynamics.

4. ✖ consistent with clausius's statement of second law of thermodynamics

Question Number : 106 Question Id : 81959913941 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 law which states "internal energy of ideal gas is a function of temperature only and is independent of pressure and volume" is

Options :

1. ✖ Avogadro's law

2. ✔ Joule's law

3. ✖ Charle's law

4. ✖ Regnault's law

Question Number : 107 Question Id : 81959913942 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 isentropic process

Options :

1. ✖ Internal energy remains constant

2. ✖ Temperature remains constant.

3. ✖ Entropy increases.

4. ✔ Heat transfer is zero.

Question Number : 108 Question Id : 81959913943 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 heat engine works on carnot cycle between 727°C and 227°C. The maximum possible efficiency is

Options :

1. ✖ 72.7%

2. ✖ 22.7 %

3. ✔ 50%

4. ✖ 68.77%

Question Number : 109 Question Id : 81959913944 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Otto cycle is called constant volume cycle because

Options :

1. ✖ compression is in constant volume process

2. ✖ expansion is in constant volume process

3. ✔ heat addition is in constant volume process

4. ✖ all processes are constant volume processes.

Question Number : 110 Question Id : 81959913945 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 fictitious constant pressure acting on piston during the entire power stroke, which would produce the same amount of network as that produced during the actual cycle of an IC engine is called.

Options :

1. ✖ varying pressure

2. ✖ maximum pressure

3. ✖ minimum pressure

4. ✔ mean effective pressure

Question Number : 111 Question Id : 81959913946 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 two stroke IC engine runs at 600 RPM. The number of working strokes per second will be

Options :

1. ✖ 600

2. ✔ 10

3. ✖ 300

4. ✖ 5

Question Number : 112 Question Id : 81959913947 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Piston of an IC engine is connected to small end of connecting rod by

Options :

1. ✖ valve

key way

2. ✖

crank pin

3. ✖

4. ✔ wrist pin

Question Number : 113 Question Id : 81959913948 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 4 Stroke CI engine has 4 cylinders. The number of spark plugs to be used in it are

Options :

1. ✖ four

2. ✔ zero

3. ✖ eight

4. ✖ two

Question Number : 114 Question Id : 81959913949 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 brief period of time during which both inlet valve and exhaust valve are open is called as

Options :

1. ✖ valve advance

2. ✖ valve timing

3. ✔ valve overlap

4. ✖ valve retreat

Question Number : 115 Question Id : 81959913950 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 ratio of break power to indicated power in an IC engine is called

Options :

1. ✔ mechanical efficiency

2. ✖ thermal efficiency based on indicated power

3. ✖ volumetric efficiency

4. ✖ thermal efficiency based on break power.

Question Number : 116 Question Id : 81959913951 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The main advantage of multistage compression in an air compressor is

Options :

1. ✔ work to be done will be minimum

2. ✖ work to be done will be maximum.

3. ✖ size of compressor will be more

4. ✖ work to be done will be zero.

Question Number : 117 Question Id : 81959913952 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 constant pressure gas turbine works on

Options :

1. ✖ Reverse Brayton cycle

2. ✔ Brayton cycle

3. ✖ Reverse Joule cycle

4. ✖ Otto cycle

Question Number : 118 Question Id : 81959913953 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 propulsive devices do not have a compressor and turbine?

Options :

1. ✖ Turbo jet

2. ✖ Turbo prop

3. ✔ Ram jet

4. ✖ Rocket engine

Question Number : 119 Question Id : 81959913954 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Heat is supplied to water at 30°C and atmospheric pressure, till water converts to gaseous form i.e., steam at 100°C. The temperature of steam further rises to 130°C. The saturation temperature of water is

Options :

1. ✖ 30°C

2. ✖ $130^{o}C$

3. ✖ $403^{o}K$

4. ✔ $100^{o}C$

Question Number : 120 Question Id : 81959913955 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

50 kg of wet steam has 5 kg of water in suspension. Its wetness fraction is

Options :

1. ✖ 0.9

2. ✖ 1

3. ✔ 0.1

4. ✖ 0

Question Number : 121 Question Id : 81959913956 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 boiler in which hot flue gases passes over the tubes is

Options :

1. ✔ water tube boiler

2. ✖ fire tube boiler

3. ✖ mixed flow boiler

4. ✖ radial flow boiler

Question Number : 122 Question Id : 81959913957 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 boilers, economizer is used to

Options :

1. ✖ preheat the air used for combustion

2. ✖ decrease the temperature of air used for combustion

3. ✔ increase the temperature of feed water supplied to boiler.

4. ✖ increase the temperature of steam beyond its saturation temperature.

Question Number : 123 Question Id : 81959913958 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 steam boiler, the capacity to evaporate 15.653 kg of water per hour from and at $100^{o}C$ is called

Options :

1. ✖ boiler efficiency

2. ✖ factor of evaporation

3. ✖ equivalent evaporation

4. ✔ boiler horse power

Question Number : 124 Question Id : 81959913959 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 with dryness fraction of 0.9 expands in a nozzle. Its polytropic index, 'n' will be

Options :

1. ✖ 1
2. ✔ 1.125
3. ✖ 1.9
4. ✖ 1.4

Question Number : 125 Question Id : 81959913960 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

At the throat of a steam nozzle, flow will be

Options :

1. ✖ sub sonic
2. ✖ super sonic
3. ✔ sonic
4. ✖ cannot be determined

Question Number : 126 Question Id : 81959913961 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 simple impulse turbine

Options :

1. ✖ velocity increases while steam flow through moving blades.

pressure increases while steam flows through moving blades.

2. ✖

pressure decreases while steam flows through moving blades.

3. ✖

pressure remains constant while steam flows through the moving blades.

4. ✔

Question Number : 127 Question Id : 81959913962 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Curtis turbine is an example of

Options :

pure reaction turbine

1. ✖

pressure compounded impulse turbine

2. ✖

velocity compounded impulse turbine

3. ✔

impulse – reaction turbine.

4. ✖

Question Number : 128 Question Id : 81959913963 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 nozzle angle is α, the maximum efficiency of impulse turbine is given as

Options :

$1 - \cos \alpha$

1. ✖

$1 - \cos^2 \alpha$

2. ✖

$1 - \sin^2 \alpha$

3. ✔

$1 - \sin \alpha$

4. ✖

Question Number : 129 Question Id : 81959913964 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 Steam condenser in which steam is directly mixed with cold water for condensation is called

Options :

1. ✖ surface condenser

2. ✖ indirect contact condenser

3. ✖ non mixing condenser

4. ✔ jet condenser

Question Number : 130 Question Id : 81959913965 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

When the barometer reads 768 mm Hg, Vacuum in condenser has to be maintained at 690 mm Hg. The corrected vacuum will be

Options :

1. ✖ 760 mm Hg

2. ✔ 682 mm Hg

3. ✖ 78 mm Hg

4. ✖ 345 mm Hg

Question Number : 131 Question Id : 81959913966 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 which is responsible for allocation of jobs and execution of plans is

Options :

1. planning ✖
2. organizing ✔
3. staffing ✖
4. directing ✖

Question Number : 132 Question Id : 81959913967 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 organization, Gantt charts are used for

Options :

1. purchasing ✖
2. cost analysis ✖
3. pricing ✖
4. scheduling ✔

Question Number : 133 Question Id : 81959913968 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 ABC analysis of inventory control, C - class items constitute

Options :

high percentage of total items and high percentage of total inventory cost

1. ✖

low percentage of total items and high percentage of total inventory cost

2. ✖

high percentage of total items and low percentage of total inventory cost

3. ✔

low percentage of total items and low percentage of total inventory cost

4. ✖

Question Number : 134 Question Id : 81959913969 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Fire hazards caused by electrical installation are classified as

Options :

A - Class fires

1. ✖

B – Class fires

2. ✖

C – Class fires

3. ✔

D – Class fires

4. ✖

Question Number : 135 Question Id : 81959913970 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 stands for

Options :

Indian standards organization

1. ✖

International organization for standardization

2. ✔

3. ✖ Indian statistical organization

4. ✖ International statistical organization.

Question Number : 136 Question Id : 81959913971 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 not a storage device in CAD system

Options :

1. ✖ Magnetic Disc

2. ✖ USB Flash memory

3. ✔ Scanner

4. ✖ Blue ray disc

Question Number : 137 Question Id : 81959913972 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 open loop numerical control system of a machine

Options :

1. ✖ There is no communication between control system and motor.

2. ✖ There is two way communication between control system and motor.

3. ✔ There is one way communication between control system and motor.

4. ✖ more number of control devices like mother board are used.

Question Number : 138 Question Id : 81959913973 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 part programming of CNC machine the block statement is as follows

N20 G01 X20.5 F200 S1000 M03. The preparatory function in the above statement is

Options :

1. ✖ N

2. ✖ X

3. ✖ F

4. ✔ G

Question Number : 139 Question Id : 81959913974 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 thread cutting cycle in CNC part programming is represented by

Options :

1. ✖ G20

2. ✔ G76

3. ✖ G83

4. ✖ G75

Question Number : 140 Question Id : 81959913975 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 robot having two rotary joints and one prismatic joint is called

Options :

1. ✖ SCARA

2. ✔ spherical robot

3. ✖ articulated robot

4. ✖ cartesian robot

Question Number : 141 Question Id : 81959913976 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 electrical device which is used to push or rotate an object with accurate precision in a CNC machine is

Options :

1. ✖ Automatic pallet changer

2. ✖ Automatic tool changer

3. ✖ Feed drive

4. ✔ Servo motor

Question Number : 142 Question Id : 81959913977 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

ERP refers to

Options :

1. ✔ Enterprise resource planning

2. ✖ Energy requirement planning

Enterprise requirement planning

3. ✖

Energy resource planning

4. ✖

Question Number : 143 Question Id : 81959913978 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 horizontal and vertical components of a force are $10\sqrt{3}$ N and 10 N respectively.

Angle made by the force with vertical component will be

Options :

1. ✖ 30°

2. ✖ 45°

3. ✔ 60°

4. ✖ 15°

Question Number : 144 Question Id : 81959913979 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 support which exerts a reaction that is perpendicular to surface along which the support can move is called

Options :

1. ✖ hinged support

2. ✖ fixed support

3. ✔ roller support

pin support

4. ✖

Question Number : 145 Question Id : 81959913980 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 centroid of a semi- circular lamina of radius 'r' will be

Options :

At center of semi-circle

1. ✖

On axis of symmetry at a distance of $\frac{4r}{3\pi}$ from its base.

2. ✔

On axis of symmetry at a distance of $\frac{2r}{3\pi}$ from its base.

3. ✖

On axis of symmetry at a distance of $\frac{3r}{4\pi}$ from its base.

4. ✖

Question Number : 146 Question Id : 81959913981 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 triangle is formed by joining the points (0,3), (0,0) and (6,0). The coordinates of its centroid will be

Options :

(6,3)

1. ✖

(1,2)

2. ✖

(3,6)

3. ✖

(2,1)

4. ✔

Question Number : 147 Question Id : 81959913982 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 45 mm x 150 mm x 1.5 m length rod having young's modulus of 100 GPa is subjected to an axial pull of 45 kN. The extension of the rod will be

Options :

1. ✖ 0.1 m

2. ✖ 0.0001 mm

3. ✔ 0.1 mm

4. ✖ 0.01 mm

Question Number : 148 Question Id : 81959913983 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 cantilever of length 2 m has a load of 400 N at its free end. Bending moment at a point 0.5 m from fixed end will be

Options :

1. ✔ - 600 Nm

2. ✖ - 200 Nm

3. ✖ + 800 Nm

4. ✖ + 400 Nm

Question Number : 149 Question Id : 81959913984 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 part of loaded beam is free from shear and is subjected to only bending moment.

Then it is said to be in condition of

Options :

1. ✖ Complimentary shear

2. ✔ Simple bending

3. ✖ Pure Torsion

4. ✖ Combined stress

Question Number : 150 Question Id : 81959913985 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 quantity (E*I), where E is Elastic Modulus and 'I' is Moment of Inertia, is called

Options :

1. ✖ Rigidity modulus

2. ✖ Torsional rigidity

3. ✖ Polar modulus

4. ✔ Flexural Stiffness

Question Number : 151 Question Id : 81959913986 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 torque transmitting capacity of hollow shaft of same weight when compared to solid shaft is

Options :

1. ✖ equal

less

2. ✖

more

3. ✔

zero

4. ✖

Question Number : 152 Question Id : 81959913987 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The power required to transmit a torque of 600 Nm at a speed of 700 rpm is

Options :

1. ✖ 0.77 kW

2. ✖ 0.77 W

3. ✖ 44 W

4. ✔ 44 kW

Question Number : 153 Question Id : 81959913988 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 symmetrical V – thread in which the angle between the flanks, measured in axial plane is 55° is called

Options :

Acme thread

1. ✖

Buttress thread

2. ✖

3. ✖ American national standard thread

4. ✔ British standard whitworth thread

Question Number : 154 Question Id : 81959913989 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 shaft of high strength is required, the material used is

Options :

1. ✖ carbon steel

2. ✔ Chrome-vanadium steel

3. ✖ Cast Iron

4. ✖ Mild steel

Question Number : 155 Question Id : 81959913990 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 designing a shaft, Guest's theory is used for

Options :

1. ✔ ductile material

2. ✖ brittle material

3. ✖ Crystalline material

4. ✖ Amorphous material

Question Number : 156 Question Id : 81959913991 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 rectangular sunk key, the relation between width of key 'w' and diameter of shaft 'd' is

Options :

1. ✖ w =2d/3

2. ✔ w= d/4

3. ✖ w=d/6

4. ✖ w=d/8

Question Number : 157 Question Id : 81959913992 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 coupling used to connect two shafts which are having both lateral and angular misalignment is

Options :

1. ✖ Oldham's coupling

2. ✖ Universal coupling

3. ✔ Bushed pin coupling

4. ✖ Flange coupling

Question Number : 158 Question Id : 81959913993 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 radial bearing the load acts

Options :

1. ✔ perpendicular to direction of motion of moving element

2. ✖ along the motion of moving element

3. ✖ along axis of rotation

4. ✖ perpendicular to axis of rotation

Question Number : 159 Question Id : 81959913994 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In belt drives, the condition which causes forward motion of driver without carrying belt with it is called

Options :

1. ✖ idling of belt

2. ✔ slip of belt

3. ✖ creep of belt

4. ✖ compounding of belt

Question Number : 160 Question Id : 81959913995 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 two non-intersecting and non-parallel shafts can be connected by

Options :

1. ✖ spur gears

2. ✖ helical gears

herringbone gear

3. ✖

skew bevel gears

4. ✔

Question Number : 161 Question Id : 81959913996 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Weight of one liter of petrol having specific gravity of 0.72 is (take g= 10 ms^{-2})

Options :

0.72 kg

1. ✖

7.2 kg

2. ✖

0.72 N

3. ✖

7.2 N

4. ✔

Question Number : 162 Question Id : 81959913997 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Flow in which the velocity at any given time does not change with respect to space is called

Options :

Laminar flow

1. ✖

Uniform flow

2. ✔

Turbulent flow

3. ✖

Compressible flow

4. ✖

Question Number : 163 Question Id : 81959913998 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Coefficient of discharge of an orifice meter will be of the order of

Options :

1. ✖ 0.98

2. ✖ 1.4

3. ✔ 0.64

4. ✖ 0.1

Question Number : 164 Question Id : 81959913999 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 pipes, a flow is said to be laminar if Reynold's number is

Options :

1. ✖ in between 2400 to 4000

2. ✖ greater than 4000

3. ✔ less than 2400

4. ✖ zero

Question Number : 165 Question Id : 81959914000 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 hydraulic turbine which is inward flow reaction turbine having radial discharge at outlet is

Options :

Pelton wheel

1. ✖

Kaplan turbine

2. ✖

Mixed flow turbine

3. ✖

Francis turbine

4. ✔

Question Number : 166 Question Id : 81959914001 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 reciprocating pump, negative slip occurs when

Options :

both delivery pipe and suction pipe are long

1. ✖

both delivery pipe and suction pipe are short

2. ✖

delivery pipe is long and suction pipe is short

3. ✖

delivery pipe is short and suction pipe is long.

4. ✔

Question Number : 167 Question Id : 81959914002 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 centrifugal pump, the ratio of manometric head to the head imparted by the impeller to the water is called

Options :

Manometric efficiency

1. ✔

Mechanical efficiency

2. ✖

Centrifugal efficiency

3. ✖

Overall efficiency.

4. ✖

Question Number : 168 Question Id : 81959914003 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 material by which it resists penetration is called

Options :

1. ✖ Strength

2. ✖ Elasticity

3. ✔ Hardness

4. ✖ Toughness

Question Number : 169 Question Id : 81959914004 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 crystal structure in which atoms are located at the corners of the cube and one atom at the center of each face of the crystal is called

Options :

1. ✔ FCC structure

2. ✖ BCC structure

3. ✖ Simple cubic

4. ✖ HCP structure

Question Number : 170 Question Id : 81959914005 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 percentage of carbon in cast iron is

Options :

1. ✔ more than 2%

2. ✖ less than 2%

3. ✖ less than 0.8 %

4. ✖ equal to 6.67 %

Question Number : 171 Question Id : 81959914006 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 heat treatment process in which steel is heated to temperature above the critical point and quenched in water or oil is called

Options :

1. ✖ annealing

2. ✔ hardening

3. ✖ tempering

4. ✖ normalising

Question Number : 172 Question Id : 81959914007 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 refined product in cupola furnace is

Options :

1. ✖ pig iron

2. ✖ steel

3. ✖ wrought iron

4. ✔ cast iron

Question Number : 173 Question Id : 81959914008 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 18:4:1 HSS, the quantity 4 refers to

Options :

1. ✖ tungsten

2. ✔ chromium

3. ✖ vanadium

4. ✖ cobalt

Question Number : 174 Question Id : 81959914009 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 material which is widely used in making electrical resistance wire for heating elements is

Options :

1. ✖ monel

2. ✖ babbit

3. ✖ hindalium

4. ✔ nichrome

Question Number : 175 Question Id : 81959914010 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 screw thread, the straight portion of the surface on either side of the thread form is called

Options :

1. ✖ crest

2. ✖ lead

3. ✖ pitch

4. ✔ flank

Question Number : 176 Question Id : 81959914011 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 relation between rivet diameter D and thickness of plates, T taken in mm, when T is greater than 8 mm, is usually

Options :

1. ✖ $D = 10\sqrt{T}$

2. ✔ $D = 6\sqrt{T}$

3. ✖ $D = 1.5\sqrt{T}$

4. ✖ $D = \sqrt{T}$

Question Number : 177 Question Id : 81959914012 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 riveted joints, the operation in which the outer bevelled edges of the plates are hammered into the seam with help of blunt edged chisel is called

Options :

1. ✖ seaming

2. ✔ caulking

3. ✖ hammering

4. ✖ strapping

Question Number : 178 Question Id : 81959914013 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 pipe joint which is used for connecting underground pipelines of large diameter is

Options :

1. ✔ Socket and spigot joints

2. ✖ nipple joint

3. ✖ expansion joint

4. ✖ hydraulic union joint

Question Number : 179 Question Id : 81959914014 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 difference between the maximum material limits of mating parts, intentionally provided to obtain desired degree or class of fit is called

Options :

1. ✖ Tolerance

2. ✖ Limit

3. ✔ Allowance

4. ✖ maximum limit

Question Number : 180 Question Id : 81959914015 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 difference between hole size and shaft size is positive in

Options :

1. ✔ clearance fit

2. ✖ transition fit

3. ✖ interference fit

4. ✖ normal fit

Question Number : 181 Question Id : 81959914016 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 basic shaft method

Options :

1. ✖ The lower deviation of hole is zero

2. ✖ The upper deviation of hole is zero

The upper deviation of shaft is zero

3. ✔

The lower deviation of shaft is zero

4. ✖

Question Number : 182 Question Id : 81959914017 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 from which the limits of a size are obtained by application of tolerances is called

Options :

Basic size

1. ✖

Actual size

2. ✖

Design size

3. ✔

nominal size

4. ✖

Question Number : 183 Question Id : 81959914018 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 test squareness of two adjacent surfaces is

Options :

mallet

1. ✖

Marking gauge

2. ✖

Try square

3. ✔

Carpenter's folding rule

4. ✖

Question Number : 184 Question Id : 81959914019 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 forging operation in which the cross section of a metal piece is increased with corresponding reduction in its length is called

Options :

1. ✔ upsetting

2. ✖ drawing out

3. ✖ bending

4. ✖ drifting

Question Number : 185 Question Id : 81959914020 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 true for hot working of metals

Options :

1. ✖ It is carried above recrystallization temperature

2. ✖ No internal stresses are set up.

3. ✖ Refining of metal grains take place

4. ✔ Existing cracks propagate and new cracks develop.

Question Number : 186 Question Id : 81959914021 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 pattern which is used for mass production is

Options :

1. ✖ loose piece pattern

2. ✖ Sweep pattern

3. ✖ skeleton pattern

4. ✔ match plate pattern

Question Number : 187 Question Id : 81959914022 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 tapered rod of wood which is embedded in the sand and later removed to produce a hole called runner through which molten metal is poured into the mould is called

Options :

1. ✖ gate cutter

2. ✖ draw spike

3. ✔ sprue pin

4. ✖ gagger

Question Number : 188 Question Id : 81959914023 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 enables it to withstand high temperature of molten metal without fusing is called

Options :

1. ✖ permeability

2. ✔ refractoriness

3. ✖ porosity

4. ✖ flowability

Question Number : 189 Question Id : 81959914024 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 special casting process which is used for producing hollow castings without use of cores is

Options :

1. ✔ slush casting

2. ✖ shell moulding

3. ✖ vacuum die casting

4. ✖ squeeze casting

Question Number : 190 Question Id : 81959914025 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 cast metal was found to have a separate non-metallic foreign material. This casting defect is called

Options :

1. ✔ inclusion

2. ✖ misrun

fusion

3. ✖

drop

4. ✖

Question Number : 191 Question Id : 81959914026 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Angle formed between flank of the tool and a perpendicular line drawn from cutting point to the base of the tool is called

Options :

clearance angle

1. ✖

relief angle

2. ✔

lip angle

3. ✖

cutting angle

4. ✖

Question Number : 192 Question Id : 81959914027 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 solid steel shaft which is used for holding bored parts for machining their outside surfaces on a lathe is called

Options :

carrier

1. ✖

collet

2. ✖

mandrel

3. ✔

chuck

4. ✖

Question Number : 193 Question Id : 81959914028 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 shaper, cutting stroke takes place

Options :

1. ✖ half during forward stroke and half during return stroke

2. ✖ during return stroke only

3. ✖ ¾ th during forward and ¼ th during return stroke

4. ✔ during forward stroke only.

Question Number : 194 Question Id : 81959914029 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 milling cutter , 150 mm dia, runs at 140 rpm. Its cutting speed will be

Options :

1. ✖ 66 mm/min

2. ✔ 66 m/min

3. ✖ 66 mm/sec

4. ✖ 66 m/sec

Question Number : 195 Question Id : 81959914030 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 not a method of resistance welding?

Options :

1. ✔ thermit welding

2. ✖ spot welding

3. ✖ butt welding

4. ✖ percussion welding

Question Number : 196 Question Id : 81959914031 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 not a quality of good cutting fluid?

Options :

1. ✖ It should carry away the heat generated during the process of cutting

2. ✔ It should have low flash point

3. ✖ It should not produce fog and smoke during use.

4. ✖ It should impart anti welding properties to tool and workpiece.

Question Number : 197 Question Id : 81959914032 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 term which indicates the strength of bond in a grinding wheel is

Options :

1. ✖ structure

2. ✔ grade

3. ✖ grit

4. ✖ grain

Question Number : 198 Question Id : 81959914033 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 measuring instrument which is used for finding the included angle between two adjacent surfaces of a work piece is

Options :

1. ✖ optical flat

2. ✖ comparator

3. ✔ clinometer

4. ✖ optical projector

Question Number : 199 Question Id : 81959914034 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 the primary requirement is only high degree of surface finish and a very close dimensional accuracy is not the primary need is

Options :

1. ✖ lapping

2. ✖ honing

3. ✖ superfinishing

4. ✔ polishing

Question Number : 200 Question Id : 81959914035 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes 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 true about fixture?

Options :

1. It is used to hold the work piece ✖

2. It is used to guide the cutting tool ✔

3. It is used to position the work ✖

4. It is not fixed to machine table ✖