Andhra Pradesh State Council of 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 23rd Apr 2026 Shift 2
Subject Name :	Mechanical Engineering
Creation Date :	2026-04-23 18:00:15
Duration :	180
Total Marks :	200
Display Marks:	No
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 :	77951868
Group Maximum Duration :	0
Group Minimum Duration :	180
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	200

Mathematics

Section Id :	779518265
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory

Number of Questions :	50
Number of Questions to be attempted :	50
Section Marks :	50
Section Negative Marks :	0
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	779518281
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 77951813409 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If $3A+4B^T=\begin{bmatrix}7 & -10 & 17\\ 0 & 6 & 31\end{bmatrix}$ and $2B-3A^T=\begin{bmatrix}-1 & 18\\ 4 & -6\\ -5 & -7\end{bmatrix}$ then $B=$ _____

Options :

1. ✖ $\begin{bmatrix}1 & 3\\ -1 & 0\\ -2 & -4\end{bmatrix}$

2. ✖ $\begin{bmatrix}1 & 3\\ 1 & 0\\ 2 & 4\end{bmatrix}$

3. ✔ $\begin{bmatrix}1 & 3\\ -1 & 0\\ 2 & 4\end{bmatrix}$

4. ✖ $\begin{bmatrix}-1 & -3\\ 1 & 0\\ 2 & 4\end{bmatrix}$

Question Number : 2 Question Id : 77951813410 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If A and B are 4×4 matrices such that $A^2+B=A^2B$ then which of the following is correct?

Options :

1. ✖ $AB = I$

2. ✖ $A^2B = I$

3. ✔ $A^2B = BA^2$

4. ✖ $A^2 = I$ or $B = I$

Question Number : 3 Question Id : 77951813411 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If A is a matrix of order 3×3 and $\left|adj\left(adj\left(adjA\right)\right)\right| = 12^4$, then the value of $\left|A^{-1}adjA\right| =$ ____

Options :

1. ✖ 1

2. ✖ 12

3. ✔ $2\sqrt{3}$

4. ✖ $\sqrt{6}$

Question Number : 4 Question Id : 77951813412 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If A is a 4×4 matrix and $\left|2A\right| = 64$, $B = adjA$ then $\left|AdjB\right| =$ _____

Options :

1. ✔ 2^{18}

2. ✖ 2^{36}

3. ✖ 2^6

4. ✖ 2^9

Question Number : 5 Question Id : 77951813413 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

For what value of λ, the system of equations $x+2y+\lambda z=0,\ x+2y+z=6,\ x+2y+3z=10$, has no solution.____

Options :

1. ✖ 2

2. ✔ 3

3. ✖ 4

4. ✖ 5

Question Number : 6 Question Id : 77951813414 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If $\frac{42-19x}{(x^2+1)(x-4)}=\frac{Ax+B}{x^2+1}+\frac{C}{x-4}$ then $B=$_____

Options :

1. ✔ -11

2. ✖ 11

3. ✖ -2

4. ✖ 2

Question Number : 7 Question Id : 77951813415 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If $\frac{(x+1)^2}{x^3+x}=\frac{A}{x}+\frac{Bx+C}{x^2+1}$, then $\sin^{-1}\left(\frac{A}{C}\right)=$

Options :

1. ✔ $\frac{\pi}{6}$

2. ✖ $\frac{\pi}{4}$

3. ✖ $\frac{\pi}{3}$

4. ✖ $\frac{\pi}{2}$

Question Number : 8 Question Id : 77951813416 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If $\text{Sin}\theta+\text{Cos}\theta=\frac{1}{5}$ and $0\le\theta<\pi$ then tan θ is _____

Options :

1. ✔ $\frac{-4}{3}$

2. ✖ $\frac{3}{4}$

3. ✖ $\frac{-3}{4}$

4. ✖ $\frac{4}{3}$

Question Number : 9 Question Id : 77951813417 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If $f(x)=Sin^6 x+Cos^6 x$ then the range of $f(x)$ is _____

Options :

1. ✖ $\left(\frac{1}{4},\frac{3}{4}\right)$

2. ✖ $\left[\frac{1}{4},\frac{3}{4}\right]$

3. ✔ $\left[\frac{1}{4},1\right]$

4. ✖ $\left[\frac{3}{4},1\right]$

Question Number : 10 Question Id : 77951813418 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

$Cos20^\circ+Cos80^\circ-\sqrt{3}Cos50^\circ=$____

Options :

1. ✖ -1

2. ✔ 0

3. ✖ 1

4. ✖ $\sqrt{3}$

Question Number : 11 Question Id : 77951813419 Question Type : MCQ

Correct Marks : 1 Wrong Marks : 0

If $A = Sin45^\circ + Cos45^\circ$ and $B = Sin44^\circ + Cos44^\circ$ then which of the following is TRUE

Options :

1. ✔ $A > B$

2. ✖ $A < B$

3. ✖ $A = B$

4. ✖ $AB = 1$

Question Number : 12 Question Id : 77951813420 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If A, B, C are angles of a triangle such that $Cot\frac{A}{2} = 3Tan\frac{C}{2}$ then $Sin A,\ Sin B,\ Sin C$ are in___

Options :

1. ✔ Arithmetic Progression

2. ✖ Geometric Progression

3. ✖ Harmonic Progression

4. ✖ Arithmetic Geometric Progression

Question Number : 13 Question Id : 77951813421 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In ΔABC, if $Sin A = Sin^2 B$ and $2\,Cos^2 A = 3\,Cos^2 B$ then the triangle ABC is _____

Options :

1. ✖ equilateral

2. ✖ isosceles

3. ✔ obtuse angled

4. ✖ right angled

Question Number : 14 Question Id : 77951813422 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

$\text{Sec}\,855^\circ =$ _____

Options :

1. ✖ 1

2. ✖ $\sqrt{2}$

3. ✔ $-\sqrt{2}$

4. ✖ -1

Question Number : 15 Question Id : 77951813423 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The number of solutions of $\text{Sin}\,x = \frac{x}{10}$ is _____

Options :

1. ✖ 10

2. ✖ 3

3. ✖ 5

4. ✔ 7

Question Number : 16 Question Id : 77951813424 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of the following is not the solution of the equation $Sin5x = 16Sin^5 x (n \in Z)$?

Options :

1. ✖ $n\pi + \frac{\pi}{6}$

2. ✖ $n\pi - \frac{\pi}{6}$

3. ✖ $n\pi$

4. ✔ $n\pi + \frac{\pi}{3}$

Question Number : 17 Question Id : 77951813425 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If $\frac{\pi}{2} \le \theta \le \frac{3\pi}{4}$ then $\cos^{-1}\left(\frac{5}{13}\sin\theta + \frac{12}{13}\cos\theta\right) =$ ____

Options :

1. ✖ $\theta - Tan^{-1}\left(\frac{4}{3}\right)$

2. ✖ $\theta + Tan^{-1}\left(\frac{5}{12}\right)$

3. ✖ $\theta + Tan^{-1}\left(\frac{4}{5}\right)$

4. ✔ $\theta - Tan^{-1}\left(\frac{5}{12}\right)$

Question Number : 18 Question Id : 77951813426 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If z is a complex number such that $|z|+z=3+i$, where $i=\sqrt{-1}$, then $|z|=$ ___

Options :

1. ✔ $\frac{5}{3}$

2. ✖ $\frac{5}{4}$

3. ✖ $\frac{\sqrt{34}}{3}$

4. ✖ $\frac{\sqrt{41}}{4}$

Question Number : 19 Question Id : 77951813427 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In the complex plane, if the points A and B represent $(1+i)$ and $(-1+i)$ then the angle between OA and OB is

Options :

1. ✖ $\frac{3\pi}{4}$

2. ✖ π

3. ✖ $\frac{\pi}{4}$

4. ✔ $\frac{\pi}{2}$

Question Number : 20 Question Id : 77951813428 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The largest distance from $(-3,2)$ to the circle $x^2+y^2-2x+2y+1=0$ _____

Options :

1. ✗ 8

2. ✗ 4

3. ✗ 18

4. ✓ 6

Question Number : 21 Question Id : 77951813429 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If the line $3x-2y+6=0$ meets x-axis and y-axis respectively at A and B, then the equation of the circle with radius AB and centre at A is _____

Options :

1. ✗ $x^2+y^2+4x+9=0$

2. ✓ $x^2+y^2+4x-9=0$

3. ✗ $x^2+y^2+4x+4=0$

4. ✗ $x^2+y^2+4x-4=0$

Question Number : 22 Question Id : 77951813430 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The equation $16x^2+y^2+8xy-74x-78y+212=0$ represents _____

Options :

1. ✗ a circle

2. ✔ a parabola

3. ✖ an ellipse

4. ✖ hyperbola

Question Number : 23 Question Id : 77951813431 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The equation of major axis of the ellipse $\frac{(x-1)^2}{9}+\frac{(y-6)^2}{4}=1$ is

Options :

1. ✖ $y-2=0$

2. ✔ $y=6$

3. ✖ $x-1=0$

4. ✖ $x=9$

Question Number : 24 Question Id : 77951813432 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The equation $\frac{x^2}{7-k}+\frac{y^2}{5-k}=1$ represents a hyperbola if _____

Options :

1. ✔ $5<k<7$

2. ✖ $k>5$

3. ✖ $k < 5 \text{ or } k > 7$

4. ✖ $k \neq 5, k \neq 7$

Question Number : 25 Question Id : 77951813433 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The vertex of the parabola $y = ax^2 + bx + c$ is _____

Options :

1. ✖ $\left(\frac{b}{2a}, \frac{b^2 - 4ac}{4a}\right)$

2. ✖ $\left(\frac{b}{2a}, \frac{4ac - b^2}{4a}\right)$

3. ✖ $\left(\frac{-b}{2a}, \frac{b^2 - 4ac}{4a}\right)$

4. ✔ $\left(\frac{-b}{2a}, \frac{4ac - b^2}{4a}\right)$

Question Number : 26 Question Id : 77951813434 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

$\underset{x \to 0}{Lt}\left(\frac{|x|}{x} + x + 2\right) =$ _____

Options :

1. ✖ 0

2. ✖ 1

3. ✖ 2

4. ✔ does not exist

Question Number : 27 Question Id : 77951813435 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

$$\lim_{x\to 0} \frac{e^{x^2}-\cos x}{\sin^2 x} = \_\_\_\_\_$$

Options :

1. ✖ 3

2. ✔ $\frac{3}{2}$

3. ✖ $\frac{5}{4}$

4. ✖ 2

Question Number : 28 Question Id : 77951813436 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of the following functions have finite number of points of discontinuity?

Options :

1. ✖ $\text{Tan}\, x$

2. ✖ $x[x]$

3. ✔ $\frac{|x|}{x}$

4. ✖ $Cotx$

Question Number : 29 Question Id : 77951813437 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If $\left(\frac{x}{a}\right)^n + \left(\frac{y}{b}\right)^n = 2$ then $\frac{dy}{dx}$ at (a,b) is _____

Options :

1. ✖ $\frac{a}{b}$

2. ✖ $-\frac{a}{b}$

3. ✖ $\frac{b}{a}$

4. ✔ $-\frac{b}{a}$

Question Number : 30 Question Id : 77951813438 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The set of all points of differentiability of the function $f(x) = e^{-|x|}$ is

Options :

1. ✖ $(0,\infty)$

2. ✖ $[0,\infty)$

3. ✖ $(-\infty,\infty)$

4. ✔ $(-\infty,\infty)-\{0\}$

Question Number : 31 Question Id : 77951813439 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If there is an error of $\frac{3}{10}\%$ in the volume of a sphere then the percentage error in its radius is

Options :

1. ✔ $\frac{1}{10}$

2. ✖ $\frac{2}{10}$

3. ✖ $\frac{3}{10}$

4. ✖ 3

Question Number : 32 Question Id : 77951813440 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The value of p such that the line joining $(0,3),(5,-2)$ is a tangent to the curve $y=\frac{p}{x+1}$ is

Options :

1. ✖ 23

2. ✔ 4

3. ✖ 3

4. ✖ 1

Question Number : 33 Question Id : 77951813441 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The interval in which $f(x)=2x^2-\log x$ increases is _____

Options :

1. ✖ $\left(-\frac{1}{2},0\right)$

2. ✖ $\left(0,\frac{1}{2}\right)$

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

4. ✔ $\left(\frac{1}{2},\infty\right)$

Question Number : 34 Question Id : 77951813442 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The function $y=xe^x$ has _____

Options :

1. ✔ Minimum value at $x=-1$

2. ✖ Minimum value at $x=0$

3. ✖ Maximum value at $x=-1$

4. ✖ Maximum value at $x=0$

Question Number : 35 Question Id : 77951813443 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

A particle is moving in a straight line such that its distance at any time t is given by

$s=\frac{t^4}{4}-2t^3+4t^2+7$ then its acceleration is minimum at t = _____

Options :

1. ✖ 1

2. ✔ 2

3. ✖ $\frac{1}{2}$

4. ✖ $\frac{3}{2}$

Question Number : 36 Question Id : 77951813444 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If $\int \frac{1}{(x+100)\sqrt{x+99}}dx = f(x)+c$ then $f(x) =$ _____

Options :

1. ✖ $2\sqrt{(x+100)}$

2. ✖ $3\sqrt{(x+100)}$

3. ✔ $2\,\mathrm{Tan}^{-1}\sqrt{x+99}$

4. ✖ $2\,\mathrm{Tan}^{-1}\sqrt{x+100}$

Question Number : 37 Question Id : 77951813445 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

$\int \frac{1+\cos 4x}{\cot x - \tan x}dx =$ _____

Options :

1. ✖ $\frac{1}{4}\cos 4x + c$

2. ✖ $\frac{1}{8}\cos 4x + c$

3. ✖ $-\frac{1}{4}\cos 4x + c$

4. ✔ $-\frac{1}{8}\cos 4x + c$

Question Number : 38 Question Id : 77951813446 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If $I_n = \int \frac{t^n}{1+t^2} dt$ then $I_6 + I_4 =$ _____

Options :

1. ✖ $\frac{t^3}{3}$

2. ✖ $\frac{t^4}{4}$

3. ✔ $\frac{t^5}{5}$

4. ✖ $\frac{t^7}{7}$

Question Number : 39 Question Id : 77951813447 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

$\int (x+1)^2 e^x dx =$ _____

Options :

1. ✖ $xe^x + c$

2. ✖ x^2e^x+c

3. ✖ $(x+1)e^x+c$

4. ✔ $\left(x^2+1\right)e^x+c$

Question Number : 40 Question Id : 77951813448 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If $\int\frac{2x^2+a^2}{x^2\left(x^2+a^2\right)}dx=\frac{k}{x}+\frac{1}{a}\tan^{-1}\frac{x}{a}+c$ then $k=$ _____

Options :

1. ✖ 0

2. ✔ -1

3. ✖ 1

4. ✖ $\frac{1}{a}$

Question Number : 41 Question Id : 77951813449 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If $k\int_0^1 xf\left(3x\right)dx=\int_0^3 tf\left(t\right)dt$ then $k=$ _____

Options :

1. ✔ 9

2. ✖ 3

3. ✖ $\frac{1}{9}$

4. ✖ $\frac{1}{3}$

Question Number : 42 Question Id : 77951813450 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

$\int_a^b \left(|x-a|+|x-b|\right)dx =$ _____, $(0<a<b)$

Options :

1. ✔ $(b-a)^2$

2. ✖ $(b-a)$

3. ✖ $(b+a)$

4. ✖ $(b+a)^2$

Question Number : 43 Question Id : 77951813451 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

$\int_0^2 \left[x^2\right]dx =$ _____

Options :

1. ✖ 0

2. ✔ $5-\sqrt{2}-\sqrt{3}$

3. ✖

$5+\sqrt{2}+\sqrt{3}$

4. ✖ $\sqrt{2}+\sqrt{3}+\sqrt{5}$

Question Number : 44 Question Id : 77951813452 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If the order and degree of a differential equation $\left(\frac{d^4y}{dx^4}+\frac{d^2y}{dx^2}\right)^{\frac{5}{2}}=10\frac{d^2y}{dx^2}$ are p and q respectively, then $p+q=$

Options :

1. ✔ 9

2. ✖ 6

3. ✖ 7

4. ✖ 10

Question Number : 45 Question Id : 77951813453 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The differential equation of the family of concentric circles with Centre at the origin is

Options :

1. ✖ $x=y\frac{dy}{dx}$

2. ✖ $\frac{dy}{dx}=\frac{y}{x}$

3. ✔ $xdx+ydx=0$

4. ✖ $xdy+ydx=0$

Question Number : 46 Question Id : 77951813454 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

$\frac{dy}{dx} = xy + x + y + 1$ has the solution

Options :

1. ✖ $\log(y+1) = x^2 + x + c$

2. ✖ $\log(y+1) = x + c$

3. ✖ $\log(y+1) = -x + c$

4. ✔ $\log(y+1) = \frac{x^2}{2} + x + c$

Question Number : 47 Question Id : 77951813455 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The general solution of $\frac{ydx - xdy}{y^2} = 0$ represents a family of

Options :

1. ✔ Straight lines passing through the origin

2. ✖ Circles

3. ✖ parabolas

4. ✖ Hyperbolas

Question Number : 48 Question Id : 77951813456 Question Type : MCQ

Correct Marks : 1 Wrong Marks : 0

Which of the following is an integrating factor for the differential equation

$$x\cos x\frac{dy}{dx}+(x\sin x+\cos x)y=1\ ?$$

Options :

1. ✗ $x\cos x$

2. ✗ $x\sin x$

3. ✓ $x\sec x$

4. ✗ $x\cos ecx$

Question Number : 49 Question Id : 77951813457 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The equation of the curve passing through the origin and satisfying the differential equation

$$\frac{dy}{dx}=(x-y)^2 \text{ is } \_\_\_\_$$

Options :

1. ✓ $e^{2x}(1-x+y)=1+x-y$

2. ✗ $e^{2x}(1+x-y)=1-x+y$

3. ✗ $e^{2x}(1+x+y)=1-x+y$

4. ✗ $e^{2x}(1-x+y)=-(1+x+y)$

Question Number : 50 Question Id : 77951813458 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If the solution $y(x)$ of the given differential equation $(e^y+1)\cos x dx + e^y \sin x dy = 0$ passes through the point $\left(\frac{\pi}{2}, 0\right)$, then the value of $e^{y\left(\frac{\pi}{6}\right)}$ is

Options :

1. ✖ 2

2. ✔ 3

3. ✖ e^2

4. ✖ e^{-3}

Physics

Section Id :	779518266
Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	25
Number of Questions to be attempted :	25
Section Marks :	25
Section Negative Marks :	0
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	779518282
Question Shuffling Allowed :	Yes

Question Number : 51 Question Id : 77951813459 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If F is the force, S is the displacement and V is the velocity of the particle, the dimensions of the ratio FS/V^2 will be

Options :

1. ✖

M^0LT^0

2. ✔ $M^1L^0T^0$

3. ✖ M^0L^0T

4. ✖ $M^0L^0T^0$

Question Number : 52 Question Id : 77951813460 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Among the following, unit less quantity is

Options :

1. ✖ Velocity gradient

2. ✖ Pressure gradient

3. ✔ Displacement gradient

4. ✖ Force gradient

Question Number : 53 Question Id : 77951813461 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If the component of one vector in the direction of another vector is zero, then those two vectors are

Options :

1. ✖ parallel to each other

2. ✔ perpendicular to each other

3. ✖ opposite to each other

4. ✖ coplanar vectors

Question Number : 54 Question Id : 77951813462 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If the resultant of two vectors is equal to either of vectors, the angle between them is

Options :

1. ✖ 30^0

2. ✖ 60^0

3. ✖ 90^0

4. ✔ 120^0

Question Number : 55 Question Id : 77951813463 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The angle made by the vector $(2\hat{\imath}+2\hat{\jmath})$ with X-axis is

Options :

1. ✔ 45^0

2. ✖ 60^0

3. ✖ 90^0

4. ✖ 120^0

Question Number : 56 Question Id : 77951813464 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The length of a vector $(3\hat{\imath}+\hat{\jmath}+2\hat{k})$ in XY plane is

Options :

1. ✖ $\sqrt{14}$

2. ✖ 2

3. ✔ $\sqrt{10}$

4. ✖ $\sqrt{5}$

Question Number : 57 Question Id : 77951813465 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

A stone projected up with a velocity 'u' reaches two points A and B at a distance 'h' with velocities u/2 and u/3. The maximum height reached by the stone is

Options :

1. ✖ $\frac{9h}{5}$

2. ✖ $\frac{27h}{4}$

3. ✖ $\frac{36h}{27}$

4. ✔

$\frac{36h}{5}$

Question Number : 58 Question Id : 77951813466 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

A ball is thrown at a speed of 20 m s^{-1} at an angle of 30^0 with the horizontal. The maximum height reached by the ball is (g = 10 ms^{-2})

Options :

1. ✖ 2 m

2. ✖ 3 m

3. ✖ 4 m

4. ✔ 5 m

Question Number : 59 Question Id : 77951813467 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

A body of mass 2 kg is moving with a constant acceleration of $(2\hat{i}+3\hat{j}-\hat{k})$ ms^{-2}. If the displacement made by the body is $(3\hat{i}-\hat{j}+2\hat{k})$ m then the work done is

Options :

1. ✔ 2 J

2. ✖ 10 J

3. ✖ 12 J

4. ✖ 22 J

Question Number : 60 Question Id : 77951813468 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The average power generated by a 90 kg mountain climber who climbs a summit of height 600 m in 90 minutes is ($g = 10\ ms^{-2}$)

Options :

1. ✔ 100 W

2. ✖ 25 W

3. ✖ 200 W

4. ✖ 50 W

Question Number : 61 Question Id : 77951813469 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

A body of mass 16 kg explodes into two pieces of masses 4 kg and 12 kg. The velocity of the 12 kg mass is 4 ms^{-1}. The kinetic energy of the second piece is

Options :

1. ✖ 96 J

2. ✖ 144 J

3. ✖ 192 J

4. ✔ 288 J

Question Number : 62 Question Id : 77951813470 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Two bodies of masses of 1 g and 4 g are moving with equal kinetic energies. The ratio of the magnitudes of their linear momenta is

Options :

1. ✖ $4 : 1$

2. ✖ $\sqrt{2} : 1$

3. ✔ $1 : 2$

4. ✖ $1 : 16$

Question Number : 63 Question Id : 77951813471 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

A sound absorber attenuates the sound level by 20 dB. The intensity decreases by a factor of

Options :

1. ✖ 10

2. ✔ 100

3. ✖ 1000

4. ✖ 10000

Question Number : 64 Question Id : 77951813472 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

A source of sound is moving towards a wall with a speed of 20 ms^{-1}. The frequency of the sound produced by the source is 400 Hz. If the speed of the sound is 340 ms^{-1}, the beat frequency heard by a person standing near the wall is

Options :

1. ✔ 0 Hz

2. ✖ 2Hz

3. ✖ 5 Hz

4. ✖ 10 Hz

Question Number : 65 Question Id : 77951813473 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

A person standing between two parallel hills fires a gun. He hears the first echo after 1.5 sec and second echo after 2.5 sec. If the speed of a sound is 332 ms^{-1}, the distance between the hills is

Options :

1. ✖ 654 m

2. ✔ 664 m

3. ✖ 674 m

4. ✖ 684 m

Question Number : 66 Question Id : 77951813474 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The velocity of sound in air is 330 ms^{-1}. To increase the apparent frequency of the sound by 50 %, the source should move towards the stationary observer with a velocity equal to

Options :

1. ✖ 330 ms^{-1}

2. ✖ 220 ms^{-1}

3. ✖ 165 ms^{-1}

4. ✔ 110 ms^{-1}

Question Number : 67 Question Id : 77951813475 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If the total absorption of a hall is doubled, the reverberation time will

Options :

1. ✖ Double

2. ✔ Become half

3. ✖ Remain same

4. ✖ Become four times

Question Number : 68 Question Id : 77951813476 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The volume V of an enclosure contains a mixture of gases like 16 g of oxygen, 28 g of nitrogen and 44 g of carbon dioxide at absolute temperature T. The pressure of the mixture of gases is (R is universal gas constant)

Options :

1. ✖ 3RT/V

2. ✖ 4RT/V

3. ✔ 5RT/2V

4. ✖ 88RT/V

Question Number : 69 Question Id : 77951813477 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Certain quantity of heat is supplied to a monoatomic ideal gas which expands at constant pressure. The percentage of heat that goes into work done by the gas is

Options :

1. ✖ 20%

2. ✔ 40%

3. ✖ 60%

4. ✖ 80%

Question Number : 70 Question Id : 77951813478 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The wrong statement among the following is

Options :

1. ✖ During free expansion, temperature of ideal gas does not change

2. ✖ During free expansion, temperature of real gas decreases

3. ✔ During free expansion of real gas temperature does not change

4. ✖ Free expansion is conducted in adiabatic manner

Question Number : 71 Question Id : 77951813479 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

A monoatomic ideal gas, initially at temperature T_1 is enclosed in a cylinder fitted with a frictionless piston. The gas is allowed to expand adiabatically to a temperature T_2 by releasing the piston suddenly. If L_1 and L_2 are the lengths of the gas column, before and after the expansion, then the value of T_1/ T_2 will be

Options :

1. ✖ $(L_1/ L_2)^{2/3}$

2. ✔ $(L_2/ L_1)^{2/3}$

3. ✖ L_2/ L_1

4. ✖ L_1/ L_2

Question Number : 72 Question Id : 77951813480 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

A gas behaves more closely as an ideal gas at

Options :

1. ✖ Low pressure and low temperature

2. ✔ Low pressure and high temperature

3. ✖ High pressure and low temperature

4. ✖ High pressure and high temperature

Question Number : 73 Question Id : 77951813481 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If the maximum kinetic energy of emitted photo electrons from a metal is 0.9 eV and work function is 2.2 eV then the energy and wavelength of incident radiation are

Options :

1. ✔ 3.1 eV, 4000 A^0

2. ✖ 2.2 eV, 2000 A^0

3. ✖ 2.2 eV, 4000 A^0

4. ✖ 3.1 eV, 2000 A^0

Question Number : 74 Question Id : 77951813482 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The core of an optical fibre is surrounded by

Options :

1. ✔ Cladding

2. ✖ Plastic jacket

3. ✖ Air

4. ✖ Metal sheath

Question Number : 75 Question Id : 77951813483 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The favourable condition for superconducting state of a matter is

Options :

1. ✖ A weak electron-phonon interaction

2. ✔ A strong electron-phonon interaction

3. ✖ A strong phonon -phonon interaction

4. ✖ A weak phonon -phonon interaction

Chemistry

Section Id :	779518267
Section Number :	3
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	25
Number of Questions to be attempted :	25
Section Marks :	25

Section Negative Marks :	0
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	779518283
Question Shuffling Allowed :	Yes

Question Number : 76 Question Id : 77951813484 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In which of the following, the number of unpaired electrons is maximum?

Options :

1. ✖ P^{3-} (Z=15)

2. ✔ S (Z=16)

3. ✖ Cl (Z=17)

4. ✖ Al^{3+} (Z=13)

Question Number : 77 Question Id : 77951813485 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The n, l values possible for a sublevel with seven degenerate orbitals are respectively (where n, l represent the symbols of principal and Azimuthal quantum numbers respectively)

Options :

1. ✔ 4, 3

2. ✖ 3, 4

3. ✖ 5, 1

4. ✖ 6, 2

Question Number : 78 Question Id : 77951813486 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The number of electrons with magnetic quantum number, $m_l = 0$ in chloride ion is (Cl (Z=17))

Options :

1. ✖ 6

2. ✖ 8

3. ✔ 10

4. ✖ 18

Question Number : 79 Question Id : 77951813487 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Atomic numbers of four elements A, B, C and D are (Z-1), (Z+2), Z and (Z+1), respectively. If Z=9, the type of bonding between A and B is (where Z= Atomic number of element)

Options :

1. ✖ Dative bond

2. ✖ Polar Covalent bond

3. ✔ Electrovalent bond

4. ✖ Non polar Covalent bond

Question Number : 80 Question Id : 77951813488 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Identify the molecule in which central atom is not obeying the octet rule.

Options :

1. ✖ H_2O

2. ✖ PCl_3

3. ✔ BF_3

4. ✖ NH_3

Question Number : 81 Question Id : 77951813489 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The mass of Na_2CO_3 (in g) (M.wt=106) present in 1.0 L of 0.05 M solution is

Options :

1. ✖ 0.53

2. ✖ 53.0

3. ✖ 26.5

4. ✔ 5.30

Question Number : 82 Question Id : 77951813490 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

A gaseous mixture contains 14 g of N_2, 8.0 g of O_2 and 8.0 g of H_2. Total number of molecules present in the mixture is (N_A= Avogadro number)
(At.wt; H=1, N=14, O=16)

Options :

1. ✖ 2.75 N_A

2. ✖

$3.75\ N_A$

3. ✔ $4.75\ N_A$

4. ✖ $1.50\ N_A$

Question Number : 83 Question Id : 77951813491 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The ratio of equivalent weights of HNO_3 and H_2SO_4 is

Options :

1. ✖ 9:5

2. ✖ 6:5

3. ✖ 7:9

4. ✔ 9:7

Question Number : 84 Question Id : 77951813492 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of the following cannot act as a buffer?

Options :

1. ✖ $NH_4OH + NH_4Cl$

2. ✖ $CH_3COOH + CH_3COONa$

3. ✖ $H_2CO_3 + Na_2CO_3$

4. ✔ $HCl + NaCl$

Question Number : 85 Question Id : 77951813493 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

200 mL of 0.1 M NaOH is allowed to react completely with 100 mL of 0.1 M HCl and the solution is diluted to 1.0 L by adding water. The pH of the mixture is

Options :

1. ✖ 3

2. ✖ 11

3. ✖ 2

4. ✔ 12

Question Number : 86 Question Id : 77951813494 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of the following is an example of non-electrolyte?

Options :

1. ✖ CH_3COONa

2. ✖ NaCl

3. ✖ NaOH

4. ✔ C_2H_5OH

Question Number : 87 Question Id : 77951813495 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In a galvanic cell, electrons flow from

Options :

1. ✖ anode to cathode through the solution

2. ✖ cathode to anode through the solution

3. ✔ anode to cathode through the external circuit

4. ✖ cathode to anode through the external circuit

Question Number : 88 Question Id : 77951813496 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Saturated solution of KNO_3 is used to make salt bridge because

Options :

1. ✖ Velocity of K^+ is greater than NO_3^-

2. ✖ Velocity of NO_3^- is greater than K^+

3. ✔ Velocity of K^+ approximately equal to NO_3^-

4. ✖ KNO_3 is highly soluble in water

Question Number : 89 Question Id : 77951813497 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

A 2 kg water sample contains 408 mg of $CaSO_4$ (M.wt =136). The hardness in terms of $CaCO_3$ equivalents (in ppm) is

Options :

1. ✖ 100

2. ✖ 136

3. ✔ 150

4. ✖ 204

Question Number : 90 Question Id : 77951813498 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of following is responsible for temporary hardness of water?

Options :

1. ✖ $NaHCO_3$

2. ✔ $Ca\ (HCO_3)_2$

3. ✖ $NaHSO_4$

4. ✖ $CaCl_2$

Question Number : 91 Question Id : 77951813499 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Demineralised water can be obtained by using

Options :

1. ✖ Clark's method

2. ✖ Permutit method

3. ✖ Calgon's method

4. ✔ Ion exchange resin method

Question Number : 92 Question Id : 77951813500 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of the following is considered as high corrosive resistant material?

Options :

1. ✖ Cast iron

2. ✔ Stainless steel

3. ✖ Zinc

4. ✖ Mild steel

Question Number : 93 Question Id : 77951813501 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The wrong statement about corrosion is

Options :

1. ✖ Corrosion involves oxidation

2. ✖ Hydrated ferric oxide is called rust

3. ✔ Lesser the potential difference between the two metals, greater will be the corrosion of anodic metal

4. ✖ Coating of zinc on iron is an example of anodic coating

Question Number : 94 Question Id : 77951813502 Question Type : MCQ

Correct Marks : 1 Wrong Marks : 0

An example for condensation polymer is

Options :

1. ✗ Neoprene rubber

2. ✗ Natural rubber

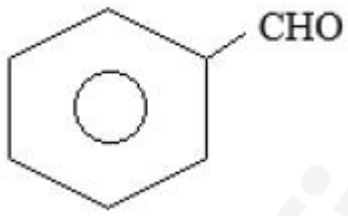
3. ✓ Urea - formaldehyde resin

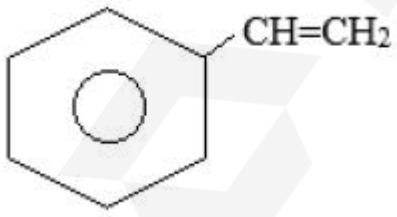
4. ✗ Polytetrafluoroethylene

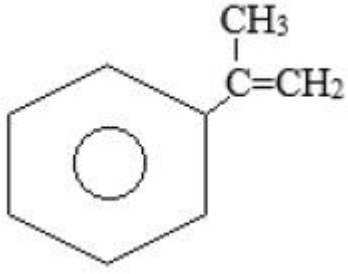
Question Number : 95 Question Id : 77951813503 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

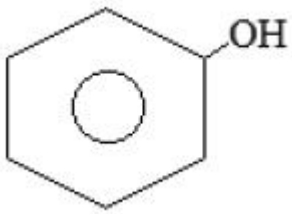
Buna-S is a polymer of monomers X and Y. If X is $CH_2 = CH - CH = CH_2$, then what is Y?

Options :

1. ✗ 

2. ✓ 

3. ✗ 

4. ✖ 

Question Number : 96 Question Id : 77951813504 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of the following is an elastomer?

Options :

1. ✔ Neoprene

2. ✖ Polyvinyl chloride

3. ✖ Bakelite

4. ✖ Teflon

Question Number : 97 Question Id : 77951813505 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The monomer of Teflon is

Options :

1. ✖ $F_2C = CF(Cl)$

2. ✖ $F_2C = CCl_2$

3. ✖ $F_2C = C\ (Br)Cl$

4. ✔

$F_2C = CF_2$

Question Number : 98 Question Id : 77951813506 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The major component of biogas is

Options :

1. ✔ CH_4

2. ✖ CO

3. ✖ N_2

4. ✖ NH_3

Question Number : 99 Question Id : 77951813507 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Ageing of skin, cataract and skin cancer are the result of

Options :

1. ✖ Acid rain

2. ✖ Green-house effect

3. ✔ Depletion of O_3 layer

4. ✖ CO Pollution

Question Number : 100 Question Id : 77951813508 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of the following is not a green-house effect gas?

Options :

1. ✖ N_2O

2. ✖ CH_4

3. ✖ CO_2

4. ✔ N_2

Mechanical Engineering

Section Id :	779518268
Section Number :	4
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	100
Number of Questions to be attempted :	100
Section Marks :	100
Section Negative Marks :	0
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	779518284
Question Shuffling Allowed :	Yes

Question Number : 101 Question Id : 77951813509 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In carpentry (wood working), the chisel with curved blade for cutting concave shapes or carving is called _____

Options :

1. ✖ Firmer

2. ✖

Mortise

3. ✔ Gouge

4. ✖ Paring

Question Number : 102 Question Id : 77951813510 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In metal working, the hammer used for riveting and shaping metal is known as _____ hammer.

Options :

1. ✖ Sledge

2. ✔ Ball-peen

3. ✖ Claw

4. ✖ Rubber

Question Number : 103 Question Id : 77951813511 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Sheet metal worker's anvil, the stake used to make straight sharp bends, for folding and bending edges is called:

Options :

1. ✖ Hallow mandrel stake

2. ✔ Hatchet stake

3. ✖ Blow-horn stake

4. ✖ Double seaming stake

Question Number : 104 Question Id : 77951813512 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which type of force is applied through a die in forging operation?

Options :

1. ✔ Compressive force

2. ✖ Tensile force

3. ✖ Shear force

4. ✖ Drawing force.

Question Number : 105 Question Id : 77951813513 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In sand moulding, the top flask is known as: _____

Options :

1. ✔ Cope

2. ✖ Drag

3. ✖ Cheek

4. ✖ Riddle

Question Number : 106 Question Id : 77951813514 Question Type : MCQ

Correct Marks : 1 Wrong Marks : 0

The property of a moulding sand that allows the gasses and steam to pass through (escape from) the mould is:

Options :

1. ✖ Adhesiveness

2. ✖ Cohesiveness

3. ✖ Collapsibility

4. ✔ Permeability

Question Number : 107 Question Id : 77951813515 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The defect of a casting due to mis-alignment of the two halves of the mould, is called:

Options :

1. ✔ Shift

2. ✖ Scab

3. ✖ Cold shut

4. ✖ Hot tears

Question Number : 108 Question Id : 77951813516 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of the following is NOT a type of section used in machine drawing.

Options :

1. ✖ Full section

2. ✖ Half section

3. ✖ Revolved section

4. ✔ Oblong section

Question Number : 109 Question Id : 77951813517 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

With respect to limits, fits, and tolerances of components, the difference between the maximum limit of size (dimension) and minimum limit of size (dimension) is called:

Options :

1. ✖ Allowance

2. ✔ Tolerance

3. ✖ Interference

4. ✖ Interchangeability

Question Number : 110 Question Id : 77951813518 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of the following gauge is used for checking the clearance or gap between two components.

Options :

1. ✖ Plug gauge

2. ✖ Ring gauge

3. ✖ Snap Gauge

4. ✔ Feeler Gauge

Question Number : 111 Question Id : 77951813519 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In Oxy-acetylene gas welding, which flame consists of three zones: a bright inner zone, a white feather and outer blue envelope.

Options :

1. ✖ Neutral

2. ✔ Carburizing

3. ✖ Oxidizing

4. ✖ Hissing

Question Number : 112 Question Id : 77951813520 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The welding process, where the arc is hidden under a blanket of granular flux, used for high speed deep penetration welding is called _____ welding.

Options :

1. ✔ Submerged Arc

2. ✖ Thermite

3. ✖ Plasma Arc

4. ✖ Metal Inert Gas

Question Number : 113 Question Id : 77951813521 Question Type : MCQ

Correct Marks : 1 Wrong Marks : 0

The welding defect caused by trapped gasses, forming bubbles in the molten weld pool that solidify into small pores or cavities, is called _____.

Options :

1. ✖ Spatter

2. ✖ Undercut

3. ✖ Slag inclusions

4. ✔ Porosity

Question Number : 114 Question Id : 77951813522 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of the following Lathe operation is NOT a metal cutting operation.

Options :

1. ✖ Facing

2. ✔ Knurling

3. ✖ Turning

4. ✖ Grooving

Question Number : 115 Question Id : 77951813523 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The most common point angle (angle between the cutting edges) for a standard general-purpose twist drill bit is _____.

Options :

1. ✖

90^0

2. ✔ 118^0

3. ✖ 155^0

4. ✖ 32^0

Question Number : 116 Question Id : 77951813524 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In a shaping process, the cutting tool moves in _____ path.

Options :

1. ✖ a parabolic

2. ✖ an elliptical

3. ✖ a circular

4. ✔ a straight line

Question Number : 117 Question Id : 77951813525 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In up-milling operation, the chip thickness is _____ at the beginning of the cut and it reaches to the _____ when the cut terminates.

Options :

1. ✖ minimum, minimum

2. ✖ maximum, maximum

3. ✔

minimum, maximum

4. ✖ maximum, minimum

Question Number : 118 Question Id : 77951813526 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In jigs & fixtures, which of the following clamp is considered as "quick acting" clamp.

Options :

1. ✖ Screw clamp

2. ✖ Bridge clamp

3. ✖ Strap clamp

4. ✔ Cam-operated clamp

Question Number : 119 Question Id : 77951813527 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In which of the unconventional machining process, mechanical material removal process using high velocity gas and abrasive particles.

Options :

1. ✔ Abrasive jet machining

2. ✖ Electric discharge machining

3. ✖ Ultrasonic machining

4. ✖ Electro chemical machining

Question Number : 120 Question Id : 77951813528 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Electroplating works on the principle of _____

Options :

1. ✔ Electrolysis

2. ✖ Oxidation

3. ✖ Reduction

4. ✖ Nitriding

Question Number : 121 Question Id : 77951813529 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

With reference to the part programme on CNC lathe, code M09 refers to:

Options :

1. ✖ Spindle stop

2. ✔ Coolant off

3. ✖ Tool Change

4. ✖ Optional stop

Question Number : 122 Question Id : 77951813530 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which is NOT a robot configuration system.

Options :

1. ✖ Cartesian

2. ✖ Cylindrical

3. ✖ Polar

4. ✔ Conical

Question Number : 123 Question Id : 77951813531 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of the following is NOT a type of flexible manufacturing system (FMS) layout.

Options :

1. ✖ Closed loop

2. ✖ Ladder

3. ✖ Open field

4. ✔ Stepped

Question Number : 124 Question Id : 77951813532 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In the rapid prototyping process of fused deposition method (FDM), the raw material used is in the form of _____.

Options :

1. ✖ Sheet

2. ✔ Wire or Filament

3. ✖ Powder

4. ✖ Molten material

Question Number : 125 Question Id : 77951813533 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The mechanical property of a material to resist surface indentation, scratching or abrasion is known as _____.

Options :

1. ✖ Fatigue

2. ✔ Hardness

3. ✖ Creep

4. ✖ Toughness

Question Number : 126 Question Id : 77951813534 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of the following is a non-destructive testing method?

Options :

1. ✖ Impact

2. ✖ Torsion

3. ✔ Ultrasonic

4. ✖ Tensile

Question Number : 127 Question Id : 77951813535 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The percentage of carbon by weight in Grey Cast Iron is in the range of _____.

Options :

1. ✖ 0.25% to 0.75%

2. ✖ 1.25% to 1.75%

3. ✔ 2.50% to 4.00%

4. ✖ 5.00% to 8.00%

Question Number : 128 Question Id : 77951813536 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In iron-carbon iron diagram, the percentage of carbon at the eutectic point is _____

Options :

1. ✖ 2.46

2. ✖ 3.04

3. ✖ 3.43

4. ✔ 4.30

Question Number : 129 Question Id : 77951813537 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The process of reheating the hardened steel to a predetermined temperature (below critical point), holding at this temperature for some time and then cooling to room temperature, usually in still air, is known as _____.

Options :

1. ✖ Annealing

2. ✖ Normalizing

3. ✔ Tempering

4. ✖ Nitriding

Question Number : 130 Question Id : 77951813538 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of the following is NOT a copper alloy.

Options :

1. ✖ Brass

2. ✖ Bronze

3. ✖ Nickel silver

4. ✔ Duralumin

Question Number : 131 Question Id : 77951813539 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If the X-component of a force of 50 N is 30N, then the Y-component of the force is

Options :

1. ✖ 20 N

2. ✖ 30 N

3. ✔ 40 N

4. ✖

Question Number : 132 Question Id : 77951813540 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The relationship between the three elastic constants is

(Where E = Modulus of Elasticity, G = Modulus of Rigidity and K = Bulk modulus.)

Options :

1. ✔ $\frac{9}{E} = \frac{1}{K} + \frac{3}{G}$

2. ✖ $\frac{3}{E} = \frac{9}{K} + \frac{1}{G}$

3. ✖ $\frac{1}{E} = \frac{9}{K} + \frac{3}{G}$

4. ✖ $\frac{9}{E} = \frac{3}{K} + \frac{1}{G}$

Question Number : 133 Question Id : 77951813541 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The bending moment diagram of a cantilever beam carrying a concentrated load at its free end is a _____

Options :

1. ✔ Right angle triangle

2. ✖ Square

3. ✖ Parabola

4. ✖ Ellipse

Question Number : 134 Question Id : 77951813542 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If the span (length) of a simply supported beam is doubled, then the deflection under a concentrated load at the centre will increase by _____times.

Options :

1. ✖ Two

2. ✖ Four

3. ✔ Eight

4. ✖ Sixteen

Question Number : 135 Question Id : 77951813543 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If a circular shaft of radius R, is subjected to torsion T, then the relationship between shear stress developed (τ), modulus of rigidity (G), angle of twist (θ) and length of the shaft (L) is

Options :

1. ✖ $\frac{\tau}{L} = \frac{G\theta}{R}$

2. ✔ $\frac{\tau}{R} = \frac{G\theta}{L}$

3. ✖ $\frac{\tau}{L} = \frac{G}{R\theta}$

4. ✖ $\frac{\tau}{R} = \frac{G}{L\theta}$

Question Number : 136 Question Id : 77951813544 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The length of a flat belt required for a cross belt drive in terms of centre distance between pulleys C, diameters of pulleys D and d is _____.

Options :

1. ✔ $\frac{\pi(D+d)}{2} + 2C + \frac{(D+d)^2}{4C}$

2. ✖ $\frac{\pi(D-d)}{2} + 2C + \frac{(D+d)^2}{4C}$

3. ✖ $\frac{\pi(D+d)}{2} + 2C + \frac{(D-d)^2}{4C}$

4. ✖ $\frac{\pi(D-d)}{2} + 2C + \frac{(D-d)^2}{4C}$

Question Number : 137 Question Id : 77951813545 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The gear train used in the differential gear of an automobile is _____ gear train.

Options :

1. ✖ Simple

2. ✖ Compound

3. ✖ Reverted

4. ✔ Epicyclic

Question Number : 138 Question Id : 77951813546 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If a maximum and minimum speed of a flywheel is 410 rpm and 390 rpm respectively, then the coefficient of fluctuation of speed is _____.

Options :

1. ✖ 0.01

2. ✔ 0.05

3. ✖ 0.02

4. ✖ 0.04

Question Number : 139 Question Id : 77951813547 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of the following centrifugal governor is a spring loaded governor.

Options :

1. ✖ Watt

2. ✖ Porter

3. ✖ Proell

4. ✔ Hartnell

Question Number : 140 Question Id : 77951813548 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In a cam and follower motion, the follower has a constant acceleration when it moves with _____ motion.

Options :

1. ✖ Involute

2. ✔ Parabolic

3. ✖ Simple Harmonic

4. ✖ Cycloidal

Question Number : 141 Question Id : 77951813549 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In riveted joints, the difference between the centre of one rivet to the centre of the adjacent rivet in the same row, is called _____.

Options :

1. ✖ Margin

2. ✖ Back Pitch

3. ✔ Pitch

4. ✖ Diagonal Pitch

Question Number : 142 Question Id : 77951813550 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The designation of screw thread M 24 x 2 means:

Options :

1. ✔ Metric thread of 24 mm outside diameter and 2 mm pitch.

2. ✖ Metric thread of 24 mm core diameter and 2 mm pitch.

3. ✖ Metric thread of 24 mm pitch diameter and 2 mm lead.

4. ✖ Cross sectional area of the thread is 48 mm^2.

Question Number : 143 Question Id : 77951813551 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In a fillet weld, the ratio of throat to leg of the weld is _____.

Options :

1. ✖ 0.5

2. ✔ 0.707

3. ✖ 1.0

4. ✖ 1.414

Question Number : 144 Question Id : 77951813552 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

When the gear is required to slide on the shaft, then the type of key is used is _____.

Options :

1. ✖ Saddle Key

2. ✔ Feather Key

3. ✖ Woodruff Key

4. ✖ Round Key

Question Number : 145 Question Id : 77951813553 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

For a sliding contact bearing, if Z = Absolute viscosity of the lubricant in kg/m-s; N = Journal speed in r.p.m; and p = Bearing pressure in N/mm^2; then the bearing characteristic number is _____.

Options :

1. ✔ $\frac{ZN}{p}$

2. ✖ $\frac{Zp}{N}$

3. ✖ $\frac{pN}{Z}$

4. ✖ $\frac{Z}{Np}$

Question Number : 146 Question Id : 77951813554 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

When a closely coiled helical compression spring is subjected to an axial compressive load, then the type of stress induced in the spring wire is _____.

Options :

1. ✖ Tensile stress

2. ✖ Compressive stress

3. ✔ Shear stress

4. ✖ Residual stress

Question Number : 147 Question Id : 77951813555 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of the following is an extensive property of a thermodynamic system.

Options :

1. ✔ Volume

2. ✖ Pressure

3. ✖ Temperature

4. ✖ Density

Question Number : 148 Question Id : 77951813556 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Measurement of temperature is based on which law of thermodynamics.

Options :

1. ✖ First law

2. ✖ Second law

3. ✖ Third law

4. ✔ Zeroth law

Question Number : 149 Question Id : 77951813557 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In polytropic process equation $pv^n = Constant$, where $p = pressure, v =$ *volume and* $n = Polytropic\ index$. If $n = 0$; then the process is termed as _____ process.

Options :

1. ✖ Constant volume

2. ✔ Constant pressure

3. ✖ Constant Temperature

4. ✖ Adiabatic

Question Number : 150 Question Id : 77951813558 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

An Air standard diesel cycle consists of _____.

Options :

1. ✔ Two isometric, one constant pressure and one constant volume processes

2. ✖ Two isometric and two isothermal processes

3. ✖ Two isometric and two constant pressure processes

4. ✖ Two isometric and two constant volume processes

Question Number : 151 Question Id : 77951813559 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The working cycle in a four stroke diesel engine is completed in _____ revolutions of the crank shaft.

Options :

1. ✖ Half

2. ✖ One

3. ✔ Two

4. ✖ Four

Question Number : 152 Question Id : 77951813560 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

An IC engine at full load delivers 180 kW brake power. The frictional power of the engine is 10 kW. The mechanical efficiency of the engine at half full load is

Options :

1. ✔ 90 %

2. ✖ 80 %

3. ✖ 70 %

4. ✖ 60 %

Question Number : 153 Question Id : 77951813561 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of the following is NOT a absorption type dynamometer (used to measure power):

Options :

1. ✖ Prony brake

2. ✖ Rope brake

3. ✖ Hydraulic

4. ✔ Torsion

Question Number : 154 Question Id : 77951813562 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In two stage reciprocating air compressor, the suction pressure is 1.5 bar and delivery pressure is 54 bar with a perfect intercooler. If both stages follow the same polytropic process, then the intermediate pressure will be equal to _____.

Options :

1. ✖ 6 bar

2. ✔ 9 bar

3. ✖ 12 bar

4. ✖ 24 bar

Question Number : 155 Question Id : 77951813563 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The main function of a diffuser in centrifugal air compressor is to convert _____ energy into _____ energy.

Options :

1. ✖ Potential, Kinetic

2. ✖ Pressure, Potential

3. ✖ Heat, Kinetic

4. ✔ Kinetic, Pressure

Question Number : 156 Question Id : 77951813564 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

A closed cycle gas turbine works on _____ thermodynamic cycle.

Options :

1. ✖ Carnot

2. ✔ Brayton

3. ✖ Duel

4. ✖ Rankine

Question Number : 157 Question Id : 77951813565 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of the following is NOT a jet propulsion system.

Options :

1. ✖ Turbo – jet

2. ✖ Ram – jet

3. ✖ Turbo – prop

4. ✔ Water – jet

Question Number : 158 Question Id : 77951813566 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In fluid flows, Newton's law of viscosity is given by the relation: ____

(Where, τ = shear stress in fluid flow; μ = coefficient of dynamic viscosity of fluid; and $\frac{du}{dy}$ = rate of shear deformation or velocity gradient in fluid.)

Options :

1. ✖ $\tau = \sqrt{\mu}\left(\frac{du}{dy}\right)$

2. ✔

$\tau = \mu \left(\frac{du}{dy}\right)$

3. ✖ $\tau = \mu^2 \left(\frac{du}{dy}\right)$

4. ✖ $\tau = \frac{1}{\mu}\left(\frac{du}{dy}\right)$

Question Number : 159 Question Id : 77951813567 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Bulk modulus of elasticity is the ratio of _____

Options :

1. ✖ Tensile stress to tensile strain

2. ✖ Compressive stress to compressive strain

3. ✔ Compressive stress to volumetric strain

4. ✖ Tensile stress to volumetric strain

Question Number : 160 Question Id : 77951813568 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

For a uniform fluid flow, the stream and velocity potential lines intersect each other at an _____ angle at all points of intersection.

Options :

1. ✖ Zero

2. ✖ Acute

3. ✖ Obtuse

4. ✔ Orthogonal

Question Number : 161 Question Id : 77951813569 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In a fluid flow, both the static pressure as well as stagnation pressure can be measured using a device known as _____.

Options :

1. ✔ Pitot static tube

2. ✖ Orifice meter

3. ✖ Venturi meter

4. ✖ Rotameter

Question Number : 162 Question Id : 77951813570 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In flow through pipes, for a circular cross-section pipe of diameter 60mm, the hydraulic depth is given by:

Options :

1. ✖ 5 mm

2. ✖ 10 mm

3. ✔ 15 mm

4. ✖ 20 mm

Question Number : 163 Question Id : 77951813571 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The force exerted by a jet of water on a stationary inclined plate in the direction of jet is:

(The plate is inclined 'θ' degrees with the horizontal. ρ = density of water, a = nozzle cross sectional area, and v = velocity of jet.)

Options :

1. ✖ $\rho\, a\, v^2\, \sin\theta$

2. ✖ $\rho\, a\, v\, \sin^2\theta$

3. ✖ $\rho\, a\, v\, \sin\theta$

4. ✔ $\rho\, a\, v^2\, \sin^2\theta$

Question Number : 164 Question Id : 77951813572 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If the mechanical efficiency and hydraulic efficiency of a Pelton wheel is 80 % and 70 % respectively, then the overall efficiency is _____.

Options :

1. ✖ 52 %

2. ✔ 56 %

3. ✖ 68 %

4. ✖ 75 %

Question Number : 165 Question Id : 77951813573 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In a Francis turbine, water enters the runner _____ and leaves ___

Options :

1. ✔ Radially, Axially

2. ✖ Axially, Radially

3. ✖ Radially, Radially

4. ✖ Axially, Axially

Question Number : 166 Question Id : 77951813574 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In reciprocating pump air vessels are used to _____

Options :

1. ✔ Obtain uniform flow rate

2. ✖ Reduce suction head

3. ✖ Increase delivery head

4. ✖ Decrease water pressure

Question Number : 167 Question Id : 77951813575 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

. Dryness fraction of a steam, which has 4 kg of water in suspension with 36 kg of steam; is

Options :

1. ✖ 0.95

2. ✔ 0.90

3. ✖ 0.865

4. ✖ 0.8

Question Number : 168 Question Id : 77951813576 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In temperature (on Y-axis) and entropy (on X-axis) diagram for steam, an isothermal process is represented by a_____.

Options :

1. ✔ Horizontal line

2. ✖ Vertical line

3. ✖ Upward inclined line (from left to right)

4. ✖ curved line

Question Number : 169 Question Id : 77951813577 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of the following steam boiler is a water tube boiler.

Options :

1. ✔ Bobcock and Wilcox

2. ✖ Cochran

3. ✖ Lancashire

4. ✖ Locomotive

Question Number : 170 Question Id : 77951813578 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of the following is a steam boiler accessory.

Options :

1. ✖ Feed check valve

2. ✖ Blow-off cock

3. ✖ Water level indicator

4. ✔ Air preheater

Question Number : 171 Question Id : 77951813579 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

With respect to steam turbine, which of the following is NOT a governing method.

Options :

1. ✖ Throttle

2. ✖ Nozzle

3. ✖ By-pass

4. ✔ Condenser

Question Number : 172 Question Id : 77951813580 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If α = steam nozzle angle, then the maximum blade efficiency for Parson's reaction steam turbine is given by:

Options :

1. ✖ $\frac{\cos\alpha}{(1+\cos\alpha)}$

2. ✖ $\frac{2\cos\alpha}{(1+\cos\alpha)}$

3. ✔ $\frac{2\cos^2\alpha}{(1+\cos\alpha^2\alpha)}$

4. ✖ $\frac{(1+\cos\alpha^2\alpha)}{2\cos^2\alpha}$

Question Number : 173 Question Id : 77951813581 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

For which of the following steam turbine, the degree of reaction is 50 %.

Options :

1. ✔ Parson's reaction turbine

2. ✖ Curtis Impulse turbine

3. ✖ Rateau Impulse turbine

4. ✖ De-Laval steam turbine

Question Number : 174 Question Id : 77951813582 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

A steam nozzle is defined as a passage of varying cross section, through which _____ energy of steam is converted into _____ energy.

Options :

1. ✖ Potential, Kinetic

2. ✖

Kinetic, Heat

3. ✔ Heat, Kinetic

4. ✖ Heat, Potential

Question Number : 175 Question Id : 77951813583 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The isentropic expansion of steam flowing through the nozzle, is approximately given by an equation pv^n = Constant. Where p = pressure, v = velocity and n = index. For the steam initially dry saturated at inlet, the value of n is _____.

Options :

1. ✖ 1.0

2. ✔ 1.135

3. ✖ 1.3

4. ✖ 1.4

Question Number : 176 Question Id : 77951813584 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

An air pump used in steam condensers, is having a piston with conical head is _____

Options :

1. ✔ Edward's pump

2. ✖ Rotary pump

3. ✖ Steam jet air pump

4. ✖ Water jet pump

Question Number : 177 Question Id : 77951813585 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Air refrigeration cycle works on _____ cycle.

Options :

1. ✖ Carnot

2. ✖ Rankine

3. ✔ Bell-Coleman

4. ✖ Atlas

Question Number : 178 Question Id : 77951813586 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of the following is NOT a part of a simple vapour compression refrigeration system.

Options :

1. ✖ Compressor

2. ✖ Condenser

3. ✔ Turbine

4. ✖ Evaporator

Question Number : 179 Question Id : 77951813587 Question Type : MCQ

Correct Marks : 1 Wrong Marks : 0

Electrolux vapour absorption refrigeration system, is a _____ fluid absorption system.

Options :

1. ✖ Single

2. ✖ Two or double

3. ✔ Three

4. ✖ Four

Question Number : 180 Question Id : 77951813588 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The chemical formula 'CHClF$_2$' refers to, which of the following refrigerant.

Options :

1. ✖ Freon -12 (R-12)

2. ✔ Freon- 22 (R-22)

3. ✖ Freon -100 (R-100)

4. ✖ Freon – 30 (R-30)

Question Number : 181 Question Id : 77951813589 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of the following component is used as an expansion device in vapour compression refrigeration system.

Options :

1. ✖ Ball valve

2. ✖ Butterfly valve

3. ✖ Gate valve

4. ✔ Solenoid valve

Question Number : 182 Question Id : 77951813590 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In which of the following psychrometric processes 'enthalpy' is constant.

Options :

1. ✖ Sensible cooling

2. ✖ Sensible heating

3. ✔ Cooling with adiabatic humidification

4. ✖ Humidification by steam injection

Question Number : 183 Question Id : 77951813591 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In work study, what does the symbol 'O' represents:

Options :

1. ✔ Operation

2. ✖ Inspection

3. ✖ Transportation

4. ✖ Delay

Question Number : 184 Question Id : 77951813592 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In statistical control charts, which of the following is NOT a control chart.

Options :

1. ✖ C-chart

2. ✖ p-chart

3. ✖ R-chart

4. ✔ y-chart.

Question Number : 185 Question Id : 77951813593 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of the following is an example for product layout.

Options :

1. ✔ Bottling plant

2. ✖ Aeroplane manufacturing industry

3. ✖ Ship building industry

4. ✖ Construction of Bridges

Question Number : 186 Question Id : 77951813594 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In Economic Order Quantity (EOQ) model; if the unit ordering cost is doubled then the EOQ

Options :

1. ✖ is halved

2. ✖ is doubled

3. ✔ increases $\sqrt{2}$ times

4. ✖ decrease $\sqrt{2}$ times

Question Number : 187 Question Id : 77951813595 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

With respect to industrial safety, which of the colour is generally used for caution sign.

Options :

1. ✔ Yellow

2. ✖ Red

3. ✖ Green

4. ✖ Blue

Question Number : 188 Question Id : 77951813596 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

An individual who takes the risk of starting a new business to make a profit is called

Options :

1. ✖ Manager

2. ✖ Investor

3. ✔ Entrepreneur

4. ✖ Intrapreneur

Question Number : 189 Question Id : 77951813597 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

ISO 9000:2015 based on how many quality management principles?

Options :

1. ✖ Three

2. ✖ Five

3. ✖ Six

4. ✔ Seven

Question Number : 190 Question Id : 77951813598 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The angle made by the sun's rays with a normal to the horizontal surface is called _____ angle.

Options :

1. ✖ Altitude

2. ✖ Azimuth

3. ✖ Hour

4. ✔ Zenith

Question Number : 191 Question Id : 77951813599 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

If the wind speed is doubled, then the wind power density is increased by a factor of

Options :

1. ✖ Two

2. ✖ Four

3. ✖ Six

4. ✔ Eight

Question Number : 192 Question Id : 77951813600 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

In the context of power generation, MHD stands for: _____

Options :

1. ✖ Magneto Hydraulic Dynamo

2. ✖ Magneto Hydro Dimensions

3. ✔ Magneto Hydro Dynamics

4. ✖ Magneto Hydraulic Discharge

Question Number : 193 Question Id : 77951813601 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The thermo-chemical conversion, in which biomass is heated in the absence of oxygen is called _____

Options :

1. ✖ Incineration

2. ✔ Pyrolysis

3. ✖ Gasification

4. ✖ Fluidised bed combustion

Question Number : 194 Question Id : 77951813602 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of the following material is used as moderator in Nuclear power plant reactors?

Options :

1. ✖ Aluminium

2. ✖ Magnesium

3. ✔ Graphite

4. ✖ Zirconium

Question Number : 195 Question Id : 77951813603 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

The time during which one-half of the number of radioactive species decay is called

Options :

1. ✖ Average life

2. ✖ Full life

3. ✔ Half-life

4. ✖ Medium life

Question Number : 196 Question Id : 77951813604 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which type of current is used in electric vehicles?

Options :

1. ✖ Static current

2. ✔ Direct current

3. ✖ Ocean current

4. ✖ Eddy current

Question Number : 197 Question Id : 77951813605 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which type of battery is commonly used in electric vehicles?

Options :

1. ✖ Zinc – Carbon

2. ✖ Iron – Cadmium

3. ✔ Lithium – Ion

4. ✖ Copper – Zinc

Question Number : 198 Question Id : 77951813606 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of the following electric vehicle cannot be plugged-in to charge the battery? The battery is charged through regenerative braking system and an IC engine.

Options :

1. ✖ Battery Electric Vehicle

2. ✔ Hybrid Electric Vehicle

3. ✖ Plug-in Hybrid Electric Vehicle

4. ✖ Fuel Cell Electric Vehicle

Question Number : 199 Question Id : 77951813607 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of the following component is NOT present in Battery Electric Vehicles?

Options :

1. ✖ Electric motor

2. ✖ Controller

3. ✔ Exhaust pipe

4. ✖ Battery

Question Number : 200 Question Id : 77951813608 Question Type : MCQ
Correct Marks : 1 Wrong Marks : 0

Which of the following fuel cell is used in Fuel Cell Electric Vehicle?

Options :

1. ✔ Hydrogen – Oxygen Cell

2. ✖ Nitrogen – Acetylene Cell

3. ✖ Carbon dioxide – Oxygen Cell

4. ✖ Propane – Butane Cell