National Testing Agency

Question Paper Name :	B Tech 29th Jan 2024 Shift 1 SET06
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B. Tech

Group Number :	1
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Group Maximum Duration :	0
Group Minimum Duration :	180
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	300
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No

Mathematics Section A

Section Id :	40585950
Section Number :	1

Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	20
Number of Questions to be attempted :	20
Section Marks :	80
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	40585950
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 1 Question Id : 405859835 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

If $f(x)=\begin{cases}2+2x, & -1\le x<0\\ 1-\frac{x}{3}, & 0\le x\le 3\end{cases}$; $g(x)=\begin{cases}-x, & -3\le x\le 0\\ x, & 0<x\le 1\end{cases}$, then range of $(fog)(x)$ is

Options :

4058592691. $[0,3)$

4058592692. $[0,1]$

4058592693. $[0,1)$

4058592694. $(0,1]$

Question Number : 1 Question Id : 405859835 Question Type : MCQ Option Shuffling : Yes Is

Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

यदि $f(x)=\begin{cases}2+2x, & -1\le x<0\\ 1-\frac{x}{3}, & 0\le x\le 3\end{cases}$; $g(x)=\begin{cases}-x, & -3\le x\le 0\\ x, & 0<x\le 1\end{cases}$, तो $(fog)(x)$ का परिसर है

Options :

4058592691. $[0,3)$

4058592692. $[0,1]$

4058592693. $[0,1)$

4058592694. $(0,1]$

Question Number : 2 Question Id : 405859836 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Let R be a relation on $\mathbb{Z}\times\mathbb{Z}$ defined by (a, b) R (c, d) if and only if ad – bc is divisible by 5. Then R is

Options :

4058592695. Reflexive and transitive but not symmetric

4058592696. Reflexive and symmetric but not transitive

4058592697. Reflexive, symmetric and transitive

4058592698. Reflexive but neither symmetric nor transitive

Question Number : 2 Question Id : 405859836 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

$\mathbb{Z}\times\mathbb{Z}$ पर $(a, b)\ R\ (c, d)$ यदि और केवल यदि $ad - bc$, 5 से विभाज्य है, द्वारा परिभाषित संबंध R

Options :

4058592695. स्वतुल्य और संक्रामक है परन्तु सममित नहीं है

4058592696. स्वतुल्य और सममित है परन्तु संक्रामक नहीं है

4058592697. स्वतुल्य, सममित और संक्रामक है

4058592698. स्वतुल्य है परन्तु न तो सममित है न ही संक्रामक है

Question Number : 3 Question Id : 405859837 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

If $z = \frac{1}{2} - 2i$ is such that $|z+1| = \alpha z + \beta(1 + i)$, $i = \sqrt{-1}$ and $\alpha, \beta \in \mathbb{R}$, then $\alpha + \beta$ is equal to

Options :

4058592699. -1

4058592700. 2

4058592701. 3

4058592702. -4

Question Number : 3 Question Id : 405859837 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

यदि $z=\frac{1}{2}-2i$ के लिए $|z+1| = \alpha z + \beta(1+i)$ है, जहाँ $i=\sqrt{-1}$ तथा $\alpha, \beta \in \mathbb{R}$ है, तो $\alpha+\beta$ बराबर है

Options :

4058592699. -1

4058592700. 2

4058592701. 3

4058592702. -4

Question Number : 4 Question Id : 405859838 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Let A be a square matrix such that $AA^T = I$. Then $\frac{1}{2}A\left[\left(A+A^T\right)^2+\left(A-A^T\right)^2\right]$ is equal to

Options :

4058592703. A^2+A^T

4058592704. A^3+A^T

4058592705. A^2+I

4058592706. $A^3 + I$

Question Number : 4 Question Id : 405859838 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

माना एक वर्ग आव्यूह A के लिए $AA^T = I$ है। तो $\frac{1}{2}A\left[\left(A+A^T\right)^2+\left(A-A^T\right)^2\right]$ बराबर है

Options :

4058592703. $A^2 + A^T$

4058592704. $A^3 + A^T$

4058592705. $A^2 + I$

4058592706. $A^3 + I$

Question Number : 5 Question Id : 405859839 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Let $A = \begin{bmatrix} 1 & 0 & 0 \\ 0 & \alpha & \beta \\ 0 & \beta & \alpha \end{bmatrix}$ and $|2A|^3 = 2^{21}$ where $\alpha, \beta \in \mathbb{Z}$, Then a value of α is

Options :

4058592707. 3

4058592708. 5

4058592709. 9

4058592710. 17

Question Number : 5 Question Id : 405859839 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

माना $A=\begin{bmatrix}1 & 0 & 0\\ 0 & \alpha & \beta\\ 0 & \beta & \alpha\end{bmatrix}$ तथा $|2A|^3=2^{21}$ हैं, जहाँ $\alpha, \beta \in \mathbb{Z}$ हैं। तो α का एक मान है

Options :

4058592707. 3

4058592708. 5

4058592709. 9

4058592710. 17

Question Number : 6 Question Id : 405859840 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

In an A.P., the sixth term $a_6 = 2$. If the product $a_1a_4a_5$ is the greatest, then the common difference of the A.P. is equal to

Options :

4058592711. $\frac{5}{8}$

4058592712. $\frac{8}{5}$

4058592713. $\frac{2}{3}$

4058592714. $\frac{3}{2}$

Question Number : 6 Question Id : 405859840 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

एक A.P. में छठा पद $a_6 = 2$ है। यदि गुणनफल $a_1 a_4 a_5$ अधिकतम है, तो A.P. का सार्व अंतर बराबर है

Options :

4058592711. $\frac{5}{8}$

4058592712. $\frac{8}{5}$

4058592713. $\frac{2}{3}$

4058592714. $\frac{3}{2}$

Question Number : 7 Question Id : 405859841 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

If in a G.P. of 64 terms, the sum of all the terms is 7 times the sum of the odd terms of the G.P, then the common ratio of the G.P. is equal to

Options :

4058592715. 4

4058592716. 5

4058592717. 6

4058592718. 7

Question Number : 7 Question Id : 405859841 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

यदि 64 पदों की एक G.P. में सभी पदों का योग, इसके विषम पदों के योग का 7 गुना है, तो G.P. का सार्व अनुपात बराबर है

Options :

4058592715. 4

4058592716. 5

4058592717. 6

4058592718. 7

Question Number : 8 Question Id : 405859842 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

$$\lim_{x\to\frac{\pi}{2}}\left(\frac{1}{\left(x-\frac{\pi}{2}\right)^2}\int_{x^3}^{\left(\frac{\pi}{2}\right)^3}\cos\left(t^{\frac{1}{3}}\right)dt\right)$$ is equal to

Options :

4058592719. $\frac{3\pi}{4}$

4058592720. $\frac{3\pi}{8}$

4058592721. $\frac{3\pi^2}{4}$

4058592722. $\frac{3\pi^2}{8}$

Question Number : 8 Question Id : 405859842 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

$$\lim_{x\to\frac{\pi}{2}}\left(\frac{1}{\left(x-\frac{\pi}{2}\right)^2}\int_{x^3}^{\left(\frac{\pi}{2}\right)^3}\cos\left(t^{\frac{1}{3}}\right)dt\right)$$ बराबर है

Options :

4058592719. $\frac{3\pi}{4}$

4058592720. $\frac{3\pi}{8}$

4058592721. $\frac{3\pi^2}{4}$

4058592722. $\frac{3\pi^2}{8}$

Question Number : 9 Question Id : 405859843 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Suppose $f(x)=\frac{\left(2^x+2^{-x}\right)\tan x\sqrt{\tan^{-1}\left(x^2-x+1\right)}}{\left(7x^2+3x+1\right)^3}$. Then the value of $f'(0)$ is equal to

Options :

4058592723. 0

4058592724. $\sqrt{\pi}$

4058592725. π

4058592726. $\frac{\pi}{2}$

Question Number : 9 Question Id : 405859843 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

माना $f(x)=\dfrac{\left(2^{x}+2^{-x}\right)\tan x\sqrt{\tan^{-1}\left(x^{2}-x+1\right)}}{\left(7x^{2}+3x+1\right)^{3}}$ है। तो $f'(0)$ का मान बराबर है

Options :

4058592723. 0

4058592724. $\sqrt{\pi}$

4058592725. π

4058592726. $\dfrac{\pi}{2}$

Question Number : 10 Question Id : 405859844 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Consider the function $f:\left[\dfrac{1}{2},1\right]\to\mathbb{R}$ defined by $f(x)=4\sqrt{2}x^{3}-3\sqrt{2}x-1$.

Consider the statements

(I) The curve $y=f(x)$ intersects the x-axis exactly at one point.

(II) The curve $y=f(x)$ intersects the x-axis at $x=\cos\dfrac{\pi}{12}$.

Then

Options :

4058592727. Both (I) and (II) are correct.

4058592728. Both (I) and (II) are incorrect.

4058592729. Only (I) is correct.

4058592730. Only (II) is correct.

Question Number : 10 Question Id : 405859844 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

$f(x)=4\sqrt{2}x^3-3\sqrt{2}x-1$ द्वारा परिभाषित फलन $f:\left[\frac{1}{2},1\right]\to\mathbb{R}$ के लिए कथनों

(I) वक्र $y=f(x)$, x-अक्ष को मात्र एक बिंदु पर काटता है

(II) वक्र $y=f(x)$, x-अक्ष को $x=\cos\frac{\pi}{12}$ पर काटता है

में से

Options :

4058592727. (I) तथा (II) दोनों सही हैं

4058592728. (I) तथा (II) दोनों गलत हैं

4058592729. केवल (I) सही है

4058592730. केवल (II) सही है

Question Number : 11 Question Id : 405859845 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

If the value of the integral $\int_{-\frac{\pi}{2}}^{\frac{\pi}{2}} \left(\frac{x^2 \cos x}{1+\pi^x} + \frac{1+\sin^2 x}{1+e^{\sin x^{2023}}} \right) dx = \frac{\pi}{4}(\pi + a) - 2$, then

the value of a is

Options :

4058592731. 2

4058592732. $-\frac{3}{2}$

4058592733. $\frac{3}{2}$

4058592734. 3

Question Number : 11 Question Id : 405859845 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

यदि समाफलन $\int_{-\frac{\pi}{2}}^{\frac{\pi}{2}} \left(\frac{x^2 \cos x}{1+\pi^x} + \frac{1+\sin^2 x}{1+e^{\sin x^{2023}}} \right) dx = \frac{\pi}{4}(\pi + a) - 2$ है, तो a का मान है

_____

Options :

4058592731. 2

4058592732. $-\frac{3}{2}$

4058592733. $\frac{3}{2}$

4058592734. 3

Question Number : 12 Question Id : 405859846 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

For $x\in\left(-\frac{\pi}{2},\frac{\pi}{2}\right)$, if $y(x)=\int\frac{\operatorname{cosec}x+\sin x}{\operatorname{cosec}x\sec x+\tan x\sin^2 x}\,dx$, and $\lim\limits_{x\to\left(\frac{\pi}{2}\right)^-}y(x)=0$

then $y\left(\frac{\pi}{4}\right)$ is equal to

Options :

4058592735. $\tan^{-1}\left(\frac{1}{\sqrt{2}}\right)$

4058592736. $\frac{1}{\sqrt{2}}\tan^{-1}\left(-\frac{1}{2}\right)$

4058592737. $-\frac{1}{\sqrt{2}}\tan^{-1}\left(\frac{1}{\sqrt{2}}\right)$

4058592738. $\frac{1}{2}\tan^{-1}\left(\frac{1}{\sqrt{2}}\right)$

Question Number : 12 Question Id : 405859846 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

$x\in\left(-\frac{\pi}{2},\frac{\pi}{2}\right)$ के लिए यदि $y(x)=\int\frac{\operatorname{cosec}x+\sin x}{\operatorname{cosec}x\sec x+\tan x\sin^2 x}\,dx$ है तथा

$\lim\limits_{x\to\left(\frac{\pi}{2}\right)^-}y(x)=0$ है, तो $y\left(\frac{\pi}{4}\right)$ बराबर है

Options :

4058592735. $\tan^{-1}\left(\frac{1}{\sqrt{2}}\right)$

4058592736. $\frac{1}{\sqrt{2}}\tan^{-1}\left(-\frac{1}{2}\right)$

4058592737. $-\frac{1}{\sqrt{2}}\tan^{-1}\left(\frac{1}{\sqrt{2}}\right)$

4058592738. $\frac{1}{2}\tan^{-1}\left(\frac{1}{\sqrt{2}}\right)$

Question Number : 13 Question Id : 405859847 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

A function $y = f(x)$ satisfies $f(x)\sin 2x + \sin x - (1 + \cos^2 x) f'(x) = 0$ with condition $f(0) = 0$. Then, $f\left(\frac{\pi}{2}\right)$ is equal to

Options :

4058592739. 0

4058592740. 1

4058592741. -1

4058592742. 2

Question Number : 13 Question Id : 405859847 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

एक फलन $y=f(x)$ के लिए $f(x)\sin 2x+\sin x-\left(1+\cos^2 x\right)f'(x)=0$ तथा $f(0)=0$ हैं। तो $f\left(\frac{\pi}{2}\right)$ बराबर है

Options :

4058592739. 0

4058592740. 1

4058592741. -1

4058592742. 2

Question Number : 14 Question Id : 405859848 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Let $\left(5,\frac{a}{4}\right)$ be the circumcenter of a triangle with vertices A$(a, -2)$, B $(a, 6)$ and $C\left(\frac{a}{4},-2\right)$. Let α denote the circumradius, β denote the area and γ denote the perimeter of the triangle. Then $\alpha + \beta + \gamma$ is

Options :

4058592743. 30

4058592744. 60

4058592745. 62

4058592746. 53

Question Number : 14 Question Id : 405859848 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

माना शीर्षों $A(a, -2)$, $B(a, 6)$ तथा $C\left(\frac{a}{4}, -2\right)$ के एक त्रिभुज का परिकेन्द्र $\left(5, \frac{a}{4}\right)$ है। यदि इस त्रिभुज के परिवृत्त की त्रिज्या α, त्रिभुज का क्षेत्रफल β तथा त्रिभुज का परिमाप γ है, तो $\alpha + \beta + \gamma$ बराबर है

Options :

4058592743. 30

4058592744. 60

4058592745. 62

4058592746. 53

Question Number : 15 Question Id : 405859849 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

In a ΔABC, suppose $y = x$ is the equation of the bisector of the angle B and the equation of the side AC is $2x - y = 2$. If $2AB = BC$ and the points A and B are respectively $(4, 6)$ and (α, β), then $\alpha + 2\beta$ is equal to

Options :

4058592747. 39

4058592748. 42

4058592749. 45

4058592750. 48

Question Number : 15 Question Id : 405859849 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

एक ΔABC में माना कोण B के समद्विभाजक का समीकरण $y = x$ है तथा भुजा AC का समीकरण $2x - y = 2$ है। यदि $(4, 6)$ और (α, β) क्रमशः बिंदु A और B हैं तथा $2AB = BC$ है, तो $\alpha + 2\beta$ बराबर है

Options :

4058592747. 39

4058592748. 42

4058592749. 45

4058592750. 48

Question Number : 16 Question Id : 405859850 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Let PQR be a triangle with R $(-1, 4, 2)$. Suppose M $(2, 1, 2)$ is the mid point of PQ. The distance of the centroid of ΔPQR from the point of intersection of the lines $\frac{x-2}{0} = \frac{y}{2} = \frac{z+3}{-1}$ and $\frac{x-1}{1} = \frac{y+3}{-3} = \frac{z+1}{1}$ is

Options :

4058592751. 9

4058592752. $\sqrt{69}$

4058592753. 69

4058592754. $\sqrt{99}$

Question Number : 16 Question Id : 405859850 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

माना एक त्रिभुज PQR में R (–1, 4, 2) है। माना PQ का मध्य बिंदु M (2, 1, 2) है। तो रेखाओं $\frac{x-2}{0}=\frac{y}{2}=\frac{z+3}{-1}$ तथा $\frac{x-1}{1}=\frac{y+3}{-3}=\frac{z+1}{1}$ के प्रतिच्छेदन बिंदु से ΔPQR के केन्द्रक की दूरी है

Options :

4058592751. 9

4058592752. $\sqrt{69}$

4058592753. 69

4058592754. $\sqrt{99}$

Question Number : 17 Question Id : 405859851 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Let $\vec{a}, \vec{b}$ and $\vec{c}$ be three non-zero vectors such that $\vec{b}$ and $\vec{c}$ are non-collinear. If $\vec{a}+5\vec{b}$ is collinear with $\vec{c}$, $\vec{b}+6\vec{c}$ is collinear with $\vec{a}$ and $\vec{a}+\alpha\vec{b}+\beta\vec{c}=\vec{0}$, then $\alpha+\beta$ is equal to

Options :

4058592755. -25

4058592756. -30

4058592757. 30

4058592758. 35

Question Number : 17 Question Id : 405859851 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

माना $\vec{a}, \vec{b}$ तथा $\vec{c}$ तीन शून्येत्तर सदिश हैं तथा $\vec{b}$ और $\vec{c}$ संरेख नहीं हैं। यदि $\vec{a}+5\vec{b}$ और $\vec{c}$ संरेख हैं, $\vec{b}+6\vec{c}$ और $\vec{a}$ संरेख है तथा $\vec{a}+\alpha\vec{b}+\beta\vec{c}=\vec{0}$है, तो $\alpha+\beta$बराबर है

Options :

4058592755. -25

4058592756. -30

4058592757. 30

4058592758. 35

Question Number : 18 Question Id : 405859852 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Let O be the origin and the position vectors of A and B be $2\hat{i}+2\hat{j}+\hat{k}$ and $2\hat{i}+4\hat{j}+4\hat{k}$ respectively. If the internal bisector of $\angle AOB$ meets the line AB at C, then the length of OC is

Options :

4058592759. $\frac{2}{3}\sqrt{34}$

4058592760. $\frac{3}{2}\sqrt{34}$

4058592761. $\frac{2}{3}\sqrt{31}$

4058592762. $\frac{3}{2}\sqrt{31}$

Question Number : 18 Question Id : 405859852 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

माना O मूलबिंदु है तथा A और B के स्थिति सदिश क्रमशः $2\hat{i}+2\hat{j}+\hat{k}$ और $2\hat{i}+4\hat{j}+4\hat{k}$ हैं। यदि $\angle AOB$ की अंतः समद्विभाजक रेखा AB को C पर मिलती है, तो OC की लंबाई है

Options :

4058592759. $\frac{2}{3}\sqrt{34}$

4058592760. $\frac{3}{2}\sqrt{34}$

4058592761. $\frac{2}{3}\sqrt{31}$

4058592762. $\frac{3}{2}\sqrt{31}$

Question Number : 19 Question Id : 405859853 Question Type : MCQ Option Shuffling : Yes Is

Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

A fair die is thrown until 2 appears. Then the probability, that 2 appears in even number of throws, is

Options :

4058592763. $\frac{1}{6}$

4058592764. $\frac{5}{6}$

4058592765. $\frac{6}{11}$

4058592766. $\frac{5}{11}$

Question Number : 19 Question Id : 405859853 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

एक न्याय पासे को 2 प्राप्त होने तक फेंका जाता है। तो पासे को सम संख्या बार फेंकने पर 2 के प्राप्त होने की प्रायिकता है

Options :

4058592763. $\frac{1}{6}$

4058592764. $\frac{5}{6}$

4058592765.

$\frac{6}{11}$

4058592766. $\frac{5}{11}$

Question Number : 20 Question Id : 405859854 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

If $\alpha, -\frac{\pi}{2} < \alpha < \frac{\pi}{2}$ is the solution of $4\cos\theta + 5\sin\theta = 1$, then the value of $\tan\alpha$ is

Options :

4058592767. $\frac{\sqrt{10}-10}{6}$

4058592768. $\frac{10-\sqrt{10}}{6}$

4058592769. $\frac{\sqrt{10}-10}{12}$

4058592770. $\frac{10-\sqrt{10}}{12}$

Question Number : 20 Question Id : 405859854 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

यदि समीकरण $4\cos\theta + 5\sin\theta = 1$ का हल $\alpha, -\frac{\pi}{2} < \alpha < \frac{\pi}{2}$ है, तो $\tan\alpha$ का मान है

Options :

4058592767. $\frac{\sqrt{10}-10}{6}$

4058592768. $\frac{10-\sqrt{10}}{6}$

4058592769. $\frac{\sqrt{10}-10}{12}$

4058592770. $\frac{10-\sqrt{10}}{12}$

Mathematics Section B

Section Id :	40585951
Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	10
Number of Questions to be attempted :	5
Section Marks :	20
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	40585951
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 21 Question Id : 405859855 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Let α, β be the roots of the equation $x^2 - x + 2 = 0$ with $Im(\alpha) > Im(\beta)$.

Then $\alpha^6 + \alpha^4 + \beta^4 - 5\alpha^2$ is equal to _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 21 Question Id : 405859855 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

माना समीकरण $x^2 - x + 2 = 0$ के मूल α, β हैं तथा $Im(\alpha) > Im(\beta)$ है। तो $\alpha^6 + \alpha^4 + \beta^4 - 5\alpha^2$ बराबर है _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 22 Question Id : 405859856 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

All the letters of the word "GTWENTY" are written in all possible ways with or without meaning and these words are written as in a dictionary. The serial number of the word "GTWENTY" is _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 22 Question Id : 405859856 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

GTWENTY शब्द के सभी अक्षरों को सभी संभव तरीकों, अर्थपूर्ण अथवा अर्थहीन, से लिखा जाता है तथा इन शब्दों को एक शब्दकोश की तरह लिखा जाता है। GTWENTY शब्द की क्रम संख्या है _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 23 Question Id : 405859857 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

If $\frac{{}^{11}C_1}{2}+\frac{{}^{11}C_2}{3}+...+\frac{{}^{11}C_9}{10}=\frac{n}{m}$ with $gcd(n,m)=1$, then $n+m$ is equal to _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 23 Question Id : 405859857 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

यदि $\frac{{}^{11}C_1}{2}+\frac{{}^{11}C_2}{3}+...+\frac{{}^{11}C_9}{10}=\frac{n}{m}$ है तथा $gcd(n,m)=1$ है, तो $n+m$ बराबर है _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 24 Question Id : 405859858 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Let $f(x) = 2^x - x^2, x \in \mathbb{R}$. If m and n are respectively the number of points at which the curves $y = f(x)$ and $y = f'(x)$ intersect the x-axis, then the value of m + n is _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 24 Question Id : 405859858 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

मान $f(x) = 2^x - x^2, x \in \mathbb{R}$ है। यदि वक्र $y = f(x)$ तथा $y = f'(x)$, x-अक्ष को क्रमशः m तथा n बिंदुओं पर काटते हैं, तो $m + n$ का मान है _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 25 Question Id : 405859859 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

The area (in sq. units) of the part of the circle $x^2 + y^2 = 169$ which is below the line $5x - y = 13$ is $\frac{\pi\alpha}{2\beta} - \frac{65}{2} + \frac{\alpha}{\beta}\sin^{-1}\left(\frac{12}{13}\right)$, where α, β are coprime numbers. Then $\alpha + \beta$ is equal to _____

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 25 Question Id : 405859859 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

वृत्त $x^2 + y^2 = 169$ के रेखा $5x - y = 13$ से नीचे के भाग का क्षेत्रफल (वर्ग इकाई में) $\frac{\pi\alpha}{2\beta} - \frac{65}{2} + \frac{\alpha}{\beta}\sin^{-1}\left(\frac{12}{13}\right)$ है, जहाँ α, β असहभाज्य संख्याएँ है। तो $\alpha + \beta$ बराबर है _____

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 26 Question Id : 405859860 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

If the solution curve $y = y(x)$ of the differential equation $(1 + y^2)(1 + \log_e x)\,dx + x\,dy = 0, x > 0$ passes through the point $(1,1)$ and $y(e) = \frac{\alpha - \tan\left(\frac{3}{2}\right)}{\beta + \tan\left(\frac{3}{2}\right)}$, then $\alpha + 2\beta$ is _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 26 Question Id : 405859860 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

यदि अवकल समीकरण $(1+y^2)(1+\log_e x)\,dx + x\,dy = 0, x > 0$ का हल वक्र $y = y(x)$,

बिंदु $(1,1)$ से होकर जाता है तथा $y(e) = \dfrac{\alpha - \tan\left(\frac{3}{2}\right)}{\beta + \tan\left(\frac{3}{2}\right)}$ है, तो $\alpha + 2\beta$ बराबर है _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 27 Question Id : 405859861 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Equations of two diameters of a circle are $2x - 3y = 5$ and $3x - 4y = 7$. The line joining the points $\left(-\frac{22}{7}, -4\right)$ and $\left(-\frac{1}{7}, 3\right)$ intersects the circle at only one point $P(\alpha, \beta)$. Then, $17\beta - \alpha$ is equal to _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 27 Question Id : 405859861 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

एक वृत्त के दो व्यासों के समीकरण $2x - 3y = 5$ तथा $3x - 4y = 7$ हैं। बिंदुओं $\left(-\frac{22}{7}, -4\right)$ तथा $\left(-\frac{1}{7}, 3\right)$ को मिलाने वाली रेखा, वृत्त को केवल एक बिंदु $P(\alpha, \beta)$ पर मिलती है। तो $17\beta - \alpha$ बराबर है _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 28 Question Id : 405859862 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

If the points of intersection of two distinct conics $x^2 + y^2 = 4b$ and $\frac{x^2}{16} + \frac{y^2}{b^2} = 1$ lie on the curve $y^2 = 3x^2$, then $3\sqrt{3}$ times the area of the rectangle formed by the intersection points is _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 28 Question Id : 405859862 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

यदि दो भिन्न शांकवों $x^2 + y^2 = 4b$ तथा $\frac{x^2}{16} + \frac{y^2}{b^2} = 1$ के प्रतिच्छेदन बिंदु, वक्र $y^2 = 3x^2$ पर हैं, तो प्रतिच्छेदन बिंदुओं से बने आयत के क्षेत्रफल का $3\sqrt{3}$ गुना है _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 29 Question Id : 405859863 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

A line with direction ratios 2, 1, 2 meets the lines $x = y + 2 = z$ and $x + 2 = 2y = 2z$ respectively at the points P and Q. If the length of the perpendicular from the point (1, 2, 12) to the line PQ is l, then l^2 is _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 29 Question Id : 405859863 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

दिक अनुपात 2, 1, 2 की एक रेखा, रेखाओं $x = y + 2 = z$ तथा $x + 2 = 2y = 2z$ को क्रमशः बिंदुओं P तथा Q पर मिलती है। यदि बिंदु (1, 2, 12) से रेखा PQ पर लंब की लंबाई l है, तो l^2 बराबर है _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 30 Question Id : 405859864 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

If the mean and variance of the data 65, 68, 58, 44, 48, 45, 60, α, β, 60 where $\alpha > \beta$, are 56 and 66.2 respectively, then $\alpha^2 + \beta^2$ is equal to _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 30 Question Id : 405859864 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

यदि आकडों 65, 68, 58, 44, 48, 45, 60, α, β, 60, जहाँ $\alpha > \beta$ है, के माध्य तथा प्रसरण क्रमशः 56 तथा 66.2 हैं, तो $\alpha^2 + \beta^2$ बराबर है _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Physics Section A

Section Id :	40585952
Section Number :	3
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	20
Number of Questions to be attempted :	20
Section Marks :	80
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	40585952
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 31 Question Id : 405859865 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

The resistance $R = \frac{V}{I}$ where V = (200 ± 5) V and I = (20 ± 0.2) A, the percentage error in the measurement of R is :

Options :

4058592781. 7%

4058592782. 3%

4058592783. 3.5%

4058592784. 5.5%

Question Number : 31 Question Id : 405859865 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

प्रतिरोध $R = \frac{V}{I}$, जहाँ $V = (200 \pm 5)$ V एवं $I = (20 \pm 0.2)$ A है। R के मापन में प्रतिशत त्रुटि है :

Options :

4058592781. 7%

4058592782. 3%

4058592783. 3.5%

4058592784. 5.5%

Question Number : 32 Question Id : 405859866 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

A body starts moving from rest with constant acceleration covers displacement S_1 in first $(p-1)$ seconds and S_2 in first p seconds. The displacement $S_1 + S_2$ will be made in time :

Options :

4058592785. $\sqrt{\left(2p^2 - 2p + 1\right)}\, s$

4058592786. $(2p-1)\, s$

4058592787. $(2p + 1)\ s$

4058592788. $(2p^2 - 2p + 1)\ s$

Question Number : 32 Question Id : 405859866 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

एक वस्तु विरामावस्था से नियत त्वरण से गति प्रारम्भ करती है जो प्रथम $(p - 1)$ सेकंड में S_1 विस्थापन तथा प्रथम p सेकंड में S_2 विस्थापन तय करती है। $(S_1 + S_2)$ विस्थापन तय करने में लगा समय होगा:

Options :

4058592785. $\sqrt{\left(2p^2 - 2p + 1\right)}\ s$

4058592786. $(2p - 1)s$

4058592787. $(2p + 1)s$

4058592788. $(2p^2 - 2p + 1)s$

Question Number : 33 Question Id : 405859867 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

If the radius of curvature of the path of two particles of same mass are in the ratio 3:4, then in order to have constant centripetal force, their velocities will be in the ratio of :

Options :

4058592789. $\sqrt{3} : 1$

4058592790. $1:\sqrt{3}$

4058592791. $\sqrt{3}:2$

4058592792. $2:\sqrt{3}$

Question Number : 33 Question Id : 405859867 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

यदि समान द्रव्यमान के दो कणों के पथों की वक्रता त्रिज्याओं का अनुपात 3:4 हो तब नियत अभिकेन्द्र बल के लिए उनके वेगों का अनुपात होगाः

Options :

4058592789. $\sqrt{3}:1$

4058592790. $1:\sqrt{3}$

4058592791. $\sqrt{3}:2$

4058592792. $2:\sqrt{3}$

Question Number : 34 Question Id : 405859868 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

A block of mass 100 kg slides over a distance of 10 m on a horizontal surface. If the co-efficient of friction between the surfaces is 0.4, then the work done against friction (in J) is :

Options :

4058592793. 4000

4058592794. 4500

4058592795. 4200

4058592796. 3900

Question Number : 34 Question Id : 405859868 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

100 किग्रा द्रव्यमान का एक गुटका 10मी की दूरी क्षैतिज सतह पर खिसकता है। यदि सतहों के बीच घर्षण गुणांक 0.4 हो तब घर्षण के विरुद्ध किया गया कार्य (जूल में) हैः

Options :

4058592793. 4000

4058592794. 4500

4058592795. 4200

4058592796. 3900

Question Number : 35 Question Id : 405859869 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

The potential energy function (in J) of a particle in a region of space is given as $U = (2x^2 + 3y^3 + 2z)$. Here x, y and z are in meter. The magnitude of x - component of force (in N) acting on the particle at point P (1, 2, 3) m is :

Options :

4058592797. 2

4058592798. 4

4058592799. 6

4058592800. 8

Question Number : 35 Question Id : 405859869 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

आकाश के किसी क्षेत्र में एक कण का स्थितिज ऊर्जा फलन (जूल में) निम्न प्रकार दिया गया है; $U = (2x^2 + 3y^3 + 2z)$,यहाँ x, y तथा z मीटर में हैं। बिन्दु P (1, 2, 3) पर कण पर कार्यरत बल के x - घटक का परिमाण है :

Options :

4058592797. 2

4058592798. 4

4058592799. 6

4058592800. 8

Question Number : 36 Question Id : 405859870 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

At what distance above and below the surface of the earth a body will have same weight. (take radius of earth as *R.)*

Options :

4058592801. $\frac{R}{2}$

4058592802. $\sqrt{5}\ R - R$

4058592803. $\frac{\sqrt{5}\ R - R}{2}$

4058592804. $\frac{\sqrt{3}\ R - R}{2}$

Question Number : 36 Question Id : 405859870 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

पृथ्वी तल से किस ऊँचाई पर किसी वस्तु का भार, पृथ्वी सतह से समान गहराई पर उसके भार के समान होगा, जहाँ R पृथ्वी की त्रिज्या है?

Options :

4058592801. $\frac{R}{2}$

4058592802. $\sqrt{5}\ R - R$

4058592803. $\frac{\sqrt{5}\ R - R}{2}$

4058592804. $\frac{\sqrt{3}R - R}{2}$

Question Number : 37 Question Id : 405859871 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Given below are two statements:

Statement I : If a capillary tube is immersed first in cold water and then in hot water, the height of capillary rise will be smaller in hot water.

Statement II : If a capillary tube is immersed first in cold water and then in hot water, the height of capillary rise will be smaller in cold water.

In the light of the above statements, choose the ***most appropriate*** from the options given below

Options :

4058592805. Both Statement **I** and Statement **II** are true

4058592806. Both Statement **I** and Statement **II** are false

4058592807. Statement **I** is true but Statement **II** is false

4058592808. Statement **I** is false but Statement **II** is true

Question Number : 37 Question Id : 405859871 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

नीचे दो कथन दिए गए हैः

कथन I : यदि केशनली को पहले ठंडे पानी में तथा बाद में गर्म पानी में डुबाया जाता है, केशनली में चढ़े गर्म पानी स्तर कम होगा।

कथन II : यदि केशनली को पहले ठंडे पानी में तथा बाद में गर्म पानी में डुबाने पर, केशनली में चढ़े ठंडे पानी का स्तर कम होगा।

उपरोक्त कथनों के संदर्भ में, नीचे दिए गए विकल्पों में से सबसे ***उचित उत्तर*** चुनिएः

Options :

4058592805. दोनों कथन **I** व कथन **II** दोनों सत्य है।

4058592806. दोनों कथन **I** व कथन **II** दोनों असत्य है।

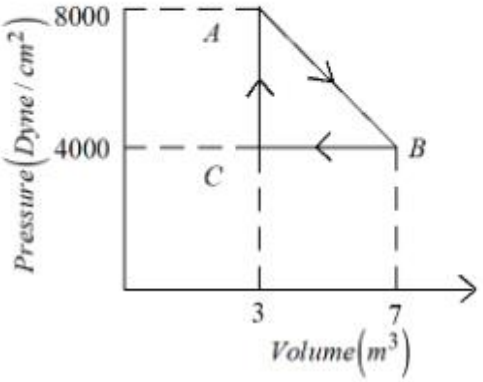
4058592807. कथन **I** सत्य व कथन **II** असत्य है।

4058592808. कथन **I** असत्य व कथन **II** सत्य है।

Question Number : 38 Question Id : 405859872 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

A thermodynamic system is taken from an original state A to an intermediate state B by a linear process as shown in the figure. It's volume is then reduced to the original value from B to C by an isobaric process. The total work done by the gas from A to B and B to C would be :



Options :

4058592809. 600 J

4058592810. 1200 J

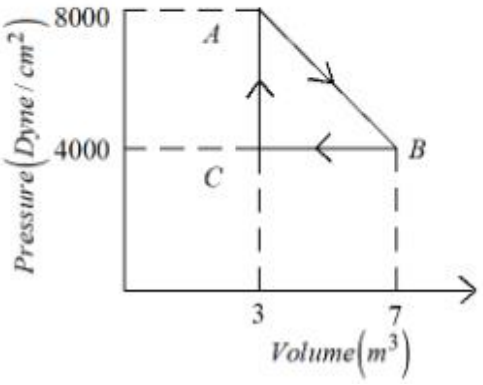
4058592811. 2200 J

4058592812. 33800 J

Question Number : 38 Question Id : 405859872 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

एक ऊष्मागतिक निकाय को इसकी प्रारम्भिक अवस्था A से एक रेखीय प्रक्रम द्वारा मध्य अवस्था B तक ले जाते हैं जैसा कि चित्र में दर्शाया गया है। एक समदाबी प्रक्रम (B से C तक) के दौरान इसका आयतन घटकर प्रारम्भिक मात्रा के बराबर हो जाता है। A से B तथा B से C तक के लिए गैस द्वारा किया गया कार्य होगाः



Options :

4058592809. 600 J

4058592810. 1200 J

4058592811. 2200 J

4058592812. 33800 J

Question Number : 39 Question Id : 405859873 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Two vessels A and B are of the same size and are at same temperature. A contains 1g of hydrogen and B contains 1g of oxygen. P_A and P_B are the pressures of the gases in A and B respectively, then $\frac{P_A}{P_B}$ is :

Options :

4058592813. 4

4058592814. 16

4058592815. 32

4058592816. 8

Question Number : 39 Question Id : 405859873 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

समान आकार की दो बोतलों A व B को समान तापमान पर रखा गया है। A में 1 ग्राम हाइड्रोजन तथा B में 1 ग्राम ऑक्सीजन ली गई है। A तथा B में गैसों का दाब क्रमशः P_A व P_B हो तो $\frac{P_A}{P_B}$ है:

Options :

4058592813. 4

4058592814. 16

4058592815. 32

4058592816. 8

Question Number : 40 Question Id : 405859874 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Two charges of $5Q$ and $-2Q$ are situated at the points $(3a, 0)$ and $(-5a, 0)$ respectively. The electric flux through a sphere of radius '$4a$' having center at origin is :

Options :

4058592817. $\frac{3Q}{\varepsilon_0}$

4058592818. $\frac{7Q}{\varepsilon_0}$

4058592819. $\frac{5Q}{\varepsilon_0}$

4058592820. $\frac{2Q}{\varepsilon_0}$

Question Number : 40 Question Id : 405859874 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

$5Q$ तथा $-2Q$ के दो आवेश क्रमशः बिन्दु $(3a, 0)$ तथा $(-5a, 0)$ पर स्थित हैं। '$4a$' त्रिज्या तथा मूल बिन्दु पर स्थित केन्द्र वाले गोले से गुजरने वाला वैद्युत फ्लक्स है :

Options :

4058592817.

$\frac{3Q}{\varepsilon_0}$

4058592818. $\frac{7Q}{\varepsilon_0}$

4058592819. $\frac{5Q}{\varepsilon_0}$

4058592820. $\frac{2Q}{\varepsilon_0}$

Question Number : 41 Question Id : 405859875 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

The electric current through a wire varies with time as $I = I_0 + \beta t$, where $I_0 = 20$ A and $\beta = 3$ A/s. The amount of electric charge crossed through a section of the wire in 20 s is :

Options :

4058592821. 1000 C

4058592822. 1600 C

4058592823. 800 C

4058592824. 80 C

Question Number : 41 Question Id : 405859875 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum

Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

किसी तार में प्रवाहित धारा व्यंजक $I = I_0 + \beta t$ के अनुसार समय के साथ परिवर्तित होती है, जहाँ $I_0 = 20A$ तथा $\beta = 3A/s$ है। 20 से. में तार के किसी परिच्छेद से गुजरने वाले आवेश की मात्रा है :

Options :

4058592821. $1000\ C$

4058592822. $1600\ C$

4058592823. $800\ C$

4058592824. $80\ C$

Question Number : 42 Question Id : 405859876 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

A galvanometer having coil resistance 10Ω shows a full scale deflection for a current of 3mA. For it to measure a current of 8A, the value of the shunt should be:

Options :

4058592825. $3\times10^{-3}\Omega$

4058592826. $4.85\times10^{-3}\Omega$

4058592827. $3.75\times10^{-3}\Omega$

4058592828. $2.75\times10^{-3}\Omega$

Question Number : 42 Question Id : 405859876 Question Type : MCQ Option Shuffling : Yes Is

Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

10Ω प्रतिरोध की कुंडली वाले एक धारामायी में 3mA धारा के लिए पूर्ण पैमाने के बराबर विक्षेप प्रदर्शित करता है। 8A धारा मापन में इसके लिए, शन्ट कितना होना चाहिए :

Options :

4058592825. $3\times10^{-3}\Omega$

4058592826. $4.85\times10^{-3}\Omega$

4058592827. $3.75\times10^{-3}\Omega$

4058592828. $2.75\times10^{-3}\Omega$

Question Number : 43 Question Id : 405859877 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

A capacitor of capacitance 100 μF is charged to a potential of 12 V and connected to a 6.4 mH inductor to produce oscillations. The maximum current in the circuit would be :

Options :

4058592829. 1.2 A

4058592830. 3.2 A

4058592831. 1.5 A

4058592832. 2.0 A

Question Number : 43 Question Id : 405859877 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

100 μF धारिता के एक संधारित्र को 12 V तक आवेशित किया जाता है तथा दोलन उत्पन्न करने के लिए इसे 6.4 mH प्रेरकत्व के साथ जोड़ा जाता है। परिपथ में अधिकतम धारा होगी :

Options :

4058592829. 1.2 A

4058592830. 3.2 A

4058592831. 1.5 A

4058592832. 2.0 A

Question Number : 44 Question Id : 405859878 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Match List I with List II

LIST I		LIST II	
A.	$\oint \vec{B}.\vec{dl} = \mu_o i_c + \mu_o \varepsilon_o \frac{d\phi_E}{dt}$	I.	Gauss' law for electricity
B.	$\oint \vec{E}.\vec{dl} = \frac{d\phi_B}{dt}$	II.	Gauss' law for magnetism
C.	$\oint \vec{E}.\vec{dA} = \frac{Q}{\varepsilon_o}$	III.	Faraday law
D.	$\oint \vec{B}.\vec{dA} = 0$	IV.	Ampere - Maxwell law

Choose the correct answer from the options given below:

Options :

4058592833. A-I, B-II, C-III, D-IV

4058592834. A-IV, B-III, C-I, D-II

4058592835. A-IV, B-I, C-III, D-II

4058592836. A-II, B-III, C-I, D-IV

Question Number : 44 Question Id : 405859878 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

सूची I का सूची II से मिलान कीजिए

सूची I		सूची II	
A.	$\oint \vec{B}.\vec{dl} = \mu_o i_c + \mu_o \varepsilon_o \frac{d\phi_E}{dt}$	I.	वैद्युतिकी के लिए गॉउस का नियम
B.	$\oint \vec{E}.\vec{dl} = \frac{d\phi_B}{dt}$	II.	चुंबकत्व के लिए गॉउस का नियम
C.	$\oint \vec{E}.\vec{dA} = \frac{Q}{\varepsilon_o}$	III.	फैराडे का नियम
D.	$\oint \vec{B}.\vec{dA} = 0$	IV.	एम्पियर मैक्सवैल नियम

नीचे दिए गए विकल्पों में से सही उत्तर चुनेः

Options :

4058592833. A-I, B-II, C-III, D-IV

4058592834. A-IV, B-III, C-I, D-II

4058592835. A-IV, B-I, C-III, D-II

4058592836. A-II, B-III, C-I, D-IV

Question Number : 45 Question Id : 405859879 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

A biconvex lens of refractive index 1.5 has a focal length of 20 cm in air. Its focal length when immersed in a liquid of refractive index 1.6 will be:

Options :

4058592837. – 160 cm

4058592838. + 160 cm

4058592839. – 16 cm

4058592840. + 16 cm

Question Number : 45 Question Id : 405859879 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

वायु में 1.5 अपवर्तनांक के एक द्विउत्तल लैंस की फोकस दूरी 20 सेमी है। जब इसे 1.6 अपवर्तनांक के द्रव में डुबाया जाता है तो इसकी फोकस दूरी होगीः

Options :

4058592837. – 160 cm

4058592838. + 160 cm

4058592839. – 16 cm

4058592840. + 16 cm

Question Number : 46 Question Id : 405859880 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

The de-Broglie wavelength of an electron is the same as that of a photon. If velocity of electron is 25% of the velocity of light, then the ratio of K.E. of electron and K.E. of photon will be:

Options :

4058592841. $\frac{1}{8}$

4058592842. $\frac{8}{1}$

4058592843. $\frac{1}{1}$

4058592844. $\frac{1}{4}$

Question Number : 46 Question Id : 405859880 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

एक इलैक्ट्रान की डी-ब्रॉगली तरंगदैर्ध्य एक फोटॉन डी-ब्रॉगली तरंगदैधर्य के समान है। यदि इलैक्ट्रान का वेग प्रकाश के वेग का 25% हो तो इलैक्ट्रान की गतिज ऊर्जा तथा फोटॉन की गतिज ऊर्जा का अनुपात होगाः

Options :

4058592841. $\frac{1}{8}$

4058592842. $\frac{8}{1}$

4058592843. $\frac{1}{1}$

4058592844. $\frac{1}{4}$

Question Number : 47 Question Id : 405859881 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

The explosive in a Hydrogen bomb is a mixture of $_1H^2$, $_1H^3$ and $_3Li^6$ in some condensed form. The chain reaction is given by

$_3Li^6 + _0n^1 \rightarrow _2He^4 + _1H^3$

$_1H^2 + _1H^3 \rightarrow _2He^4 + _0n^1$

During the explosion the energy released is approximately

[Given : M (Li) = 6.01690 amu, M ($_1H^2$) = 2.01471 amu, M ($_2He^4$) = 4.00388 amu, and 1 amu = 931.5 MeV]

Options :

4058592845. 12.64 MeV

4058592846. 16.48 MeV

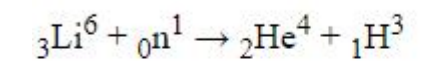
4058592847. 22.22 MeV

4058592848. 28.12 MeV

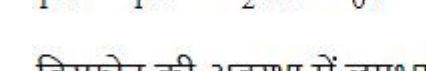
Question Number : 47 Question Id : 405859881 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

एक हाइड्रोजन बम में विस्फोटक ${}_1H^2$, ${}_1H^3$ तथा ${}_3Li^6$ का मिश्रण संघनित अवस्था में है।
श्रृंखला अभिक्रिया निम्न प्रकार है:



$${}_3Li^6 + {}_0n^1 \rightarrow {}_2He^4 + {}_1H^3$$



$${}_1H^2 + {}_1H^3 \rightarrow {}_2He^4 + {}_0n^1$$

विस्फोट की अवस्था में लगभग उत्पन्न ऊर्जा है:

[दिया है ; M (Li) = 6.01690 amu, M (${}_1H^2$) = 2.01471 amu, M (${}_2He^4$) = 4.00388 amu, and 1 amu = 931.5 MeV]

Options :

4058592845. 12.64 MeV

4058592846. 16.48 MeV

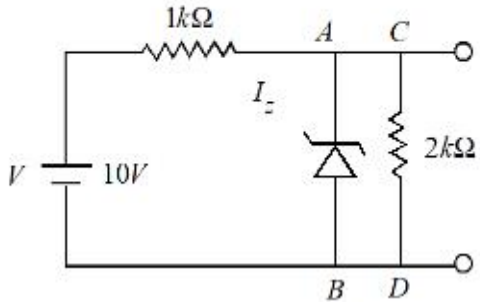
4058592847. 22.22 MeV

4058592848. 28.12 MeV

Question Number : 48 Question Id : 405859882 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

In the given circuit, the breakdown voltage of the Zener diode is 3.0 V. What is the value of I_z?



Options :

4058592849. 3.3 mA

4058592850. 10 mA

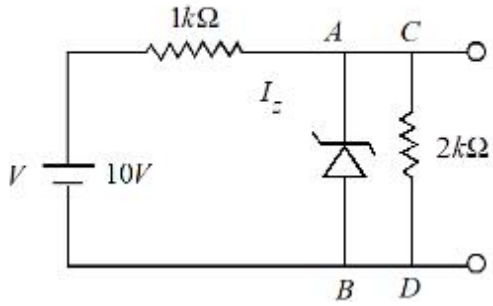
4058592851. 7 mA

4058592852. 5.5 mA

Question Number : 48 Question Id : 405859882 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

दिये गये परिपथ में जीनर डायोड का ब्रेकडाउन वोल्टेज 3.0 V है। I_z का मान क्या होगा?



Options :

4058592849. 3.3 mA

4058592850. 10 mA

4058592851. 7 mA

4058592852. 5.5 mA

Question Number : 49 Question Id : 405859883 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

A convex mirror of radius of curvature 30 cm forms an image that is half the size of the object. The object distance is :

Options :

4058592853. 15 cm

4058592854. 45 cm

4058592855. – 15 cm

4058592856. – 45 cm

Question Number : 49 Question Id : 405859883 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

30 सेमी वक्रता त्रिज्या का एक उत्तल दर्पण प्रतिबिम्ब बनाता है जो वस्तु के आकार का आधा है। वस्तु की दुरी हैः

Options :

4058592853. 15 cm

4058592854. 45 cm

4058592855. -15 cm

4058592856. -45 cm

Question Number : 50 Question Id : 405859884 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

The deflection in moving coil galvanometer falls from 25 divisions to 5 division when a shunt of 24Ω is applied. The resistance of galvanometer coil will be :

Options :

4058592857. 12 Ω

4058592858. 96 Ω

4058592859. 100 Ω

4058592860. 48 Ω

Question Number : 50 Question Id : 405859884 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

जब चल कुंडली धारामापी से 24Ω का एक शन्ट जोड़ा गया है तो इसका विक्षेप 25 खानों से घटकर 5 खानों के बराबर रह जाता है। धारामापी कुंडली का प्रतिरोध होगाः

Options :

4058592857. 12 Ω

4058592858. 96 Ω

4058592859. $100\ \Omega$

4058592860. $48\ \Omega$

Physics Section B

Section Id :	40585953
Section Number :	4
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	10
Number of Questions to be attempted :	5
Section Marks :	20
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	40585953
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 51 Question Id : 405859885 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

A ball rolls off the top of a stairway with horizontal velocity u. The steps are 0.1 m high and 0.1 m wide. The minimum velocity u with which that ball just hits the step 5 of the stairway will be $\sqrt{x}\ ms^{-1}$ where $x =$ _____ [use g = 10 m/s^2].

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 51 Question Id : 405859885 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

एक गेंद क्षैतिज वेग u से सीढ़ी के रास्ते से शिखर से लुड़कती है। एक सीढ़ी की ऊँचाई 0.1मी तथा चौड़ाई 0.1 मी है। गेंद का न्यूनतम वेग u, जिससे वह पाँचवीं सीढ़ी पर टकराती है, $\sqrt{x}$ मी/से होगा जहाँ x = _____ है।

(दिया है, g = 10 मी/से^{2}).

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 52 Question Id : 405859886 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

A cylinder is rolling down on an inclined plane of inclination 60°. It's acceleration during rolling down will be $\frac{x}{\sqrt{3}} m/s^2$, where x = _____ (use g = 10 m/s^2).

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 52 Question Id : 405859886 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

एक बेलन 60° के आनत तल पर नीचे की ओर लुढ़कता है। लुढ़कने के दौरान इसका त्वरण $\frac{x}{\sqrt{3}}$ मी/से^{2} होगा। जहाँ $x =$ _____ है। (दिया है, $g = 10$ मी/से^{2}).

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 53 Question Id : 405859887 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

In a test experiment on a model aeroplane in wind tunnel, the flow speeds on the upper and lower surfaces of the wings are 70 ms^{-1} and 65 ms^{-1} respectively. If the wing area is 2 m^2, the lift of the wing is _____N.

(Given density of air = 1.2 kg m^{-3})

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 53 Question Id : 405859887 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

एक मॉडल वायुयान के विंड टनल में प्रयोगिक परीक्षण में पंखों के उपरी तथा निचले सतहों पर बहाव की चालें क्रमशः 70 मी/से तथा 65 मी/से हैं। यदि पंख का क्षेत्रफल 2 मी^{2} हो तो पंख द्वारा लगने वाला बल _____N. है।

(दिया है: वायु का घनत्व = 1.2 किग्रा/मी^{3})

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 54 Question Id : 405859888 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

When the displacement of a simple harmonic oscillator is one third of its amplitude, the ratio of total energy to the kinetic energy is $\frac{x}{8}$, where x = _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 54 Question Id : 405859888 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

जब एक सरल आवर्त गति का विस्थापन इसके आयाम का एक तिहाई हो तब कुल ऊर्जा का गतिज ऊर्जा के साथ अनुपात $\frac{x}{8}$ है, जहाँ $x =$ _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 55 Question Id : 405859889 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

An electron is moving under the influence of the electric field of a uniformly charged infinite plane sheet S having surface charge density $+\sigma$. The electron at t=0 is at a distance of 1 m from S and has a speed of 1 m/s. The maximum value of σ if the electron strikes S at t=1 s is $\alpha\left[\frac{m\epsilon_0}{e}\right]\frac{C}{m^2}$, the value of α is _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 55 Question Id : 405859889 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

एक इलैक्ट्रान $+\sigma$ पृष्ठ आवेश घनत्व वाली एकसमान आवेशित अनंत आकार की समतल चादर S के विद्युत क्षेत्र के कारण गति कर रहा है। $t=0$ पर इलैक्ट्रान S से 1 मी की दूरी पर है और इसकी चाल 1 मी/से है। यदि $t=1$ पर इलैक्ट्रान S से टकराता है तब σ का अधिकतम मान $\alpha\left[\frac{m\in_0}{e}\right]\frac{C}{m^2}$ है। α का मान _____ है।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 56 Question Id : 405859890 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

A 16Ω wire is bend to form a square loop. A 9V battery with internal resistance 1Ω is connected across one of its sides. If a $4\mu F$ capacitor is connected across one of its diagonals, the energy stored by the capacitor will be $\frac{x}{2}\mu J$, where x = _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 56 Question Id : 405859890 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

16Ω के एक तार को मोड़कर एक वर्गाकार लूप बनाया गया है। 1Ω आन्तरिक प्रतिरोध की एक 9V की बैटरी को इसकी एक भुजा से जोड़ा जाता है। यदि $4\mu F$ का एक संधारित इसके विकर्ण से जोड़ा गया हो तो संधारित में संचित ऊर्जा $\frac{x}{2}\mu J$ होगी। जहाँ $x =$ _____।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 57 Question Id : 405859891 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

The magnetic potential due to a magnetic dipole at a point on its axis situated at a distance of 20 cm from its center is $1.5 \times 10^{-5}\ T\,m$. The magnetic moment of the dipole is _____ $A\,m^2$. (Given : $\frac{\mu_o}{4\pi} = 10^{-7}\ T\,m\,A^{-1}$)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 57 Question Id : 405859891 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

चुंबकीय द्विध्रुव के कारण इसके केन्द्र से 20 सेमी की दूरी से इसकी अक्ष पर स्थित बिन्दु पर चुंबकीय विभव $1.5 \times 10^{-5}\ T\,m$ है। द्विध्रुव का चुंबकीय आधूर्ण _____ $A\,m^2$ है। (दिया है : $\frac{\mu_o}{4\pi} = 10^{-7}\ T\,m\,A^{-1}$)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 58 Question Id : 405859892 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

A square loop of side 10 cm and resistance 0.7Ω is placed vertically in east-west plane. A uniform magnetic field of 0.20 T is set up across the plane in north east direction. The magnetic field is decreased to zero in 1 s at a steady rate. Then, magnitude of induced emf is $\sqrt{x} \times 10^{-3} V$. The value of x is _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 58 Question Id : 405859892 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

10 सेमी भुजा तथा 0.7Ω प्रतिरोध का एक वर्गाकार लूप पूरब-पश्चिम तल में ऊर्ध्वाधर रखा गया है। तल पर 0.20 T का एक समान चुंबकीय क्षेत्र उत्तर पूरब दिशा में स्थापित किया गया है। 1 से.में चुंबकीय क्षेत्र एक स्थाई दर से घटकर शून्य हो जाता है। तब प्रेरित विद्युत बाहक बल का परिमाण $\sqrt{x} \times 10^{-3} V$ है। x का मान _____ है।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

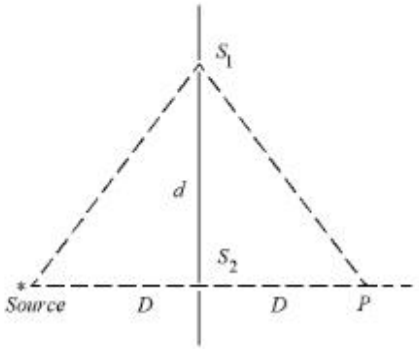
Possible Answers :

1

Question Number : 59 Question Id : 405859893 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

In a double slit experiment shown in figure, when light of wavelength 400 nm is used, dark fringe is observed at P. If D=0.2 m, the minimum distance between the slits S_1 and S_2 is _____ mm.



Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

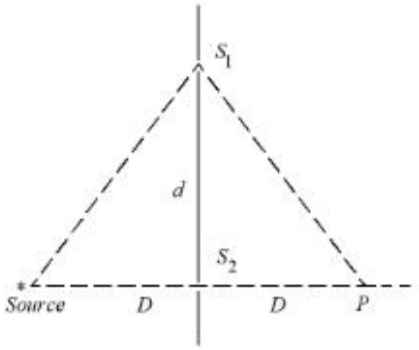
Possible Answers :

1

Question Number : 59 Question Id : 405859893 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

चित्र में प्रदर्शित एक द्विझिर्री प्रयोग में जब 400 nm की तरंगदैर्ध्य ली जाती है तो बिन्दु P पर अदीप्त फ्रिन्ज प्राप्त होती है। यदि D=0.2 मी. हो तो S_1 व S_2 के बीच की न्यूनतम दूरी _____ mm है।



Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 60 Question Id : 405859894 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

When a hydrogen atom going from n=2 to n=1 emits a photon, its recoil speed is $\frac{x}{5}\,m/s$. Where x = _____. (Use, mass of hydrogen atom = 1.6×10^{-27} kg)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 60 Question Id : 405859894 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

जब एक हाइड्रोजन परमाणु $n=2$ से $n=1$ जाता है तो एक फोटॉन उत्सर्जित करता है तो इसकी प्रतिक्षेप चाल $\frac{x}{5}$ मी/से है। जहाँ $x =$ _____. (दिया है, हाइड्रोजन परमाणु का द्रव्यमान $= 1.6 \times 10^{-27}$ किग्रा)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Chemistry Section A

Section Id :	40585954
Section Number :	5
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	20
Number of Questions to be attempted :	20
Section Marks :	80
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	40585954
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 61 Question Id : 405859895 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

The correct set of four quantum numbers for the valence electron of rubidium atom (Z = 37) is :

Options :

4058592871. $5, 0, 0, +\frac{1}{2}$

4058592872. $5, 1, 0, +\frac{1}{2}$

4058592873. $5, 1, 1, +\frac{1}{2}$

4058592874. $5, 0, 1, +\frac{1}{2}$

Question Number : 61 Question Id : 405859895 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

रूबीडियम परमाणु (Z = 37) के लिए संयोजकता इलेक्ट्रॉन के लिए चारों क्वांटम संख्याओं का सही समुच्चय है :

Options :

4058592871. $5, 0, 0, +\frac{1}{2}$

4058592872. $5, 1, 0, +\frac{1}{2}$

4058592873. $5, 1, 1, +\frac{1}{2}$

4058592874. $5, 0, 1, +\frac{1}{2}$

Question Number : 62 Question Id : 405859896 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Which of the following is **not** correct?

Options :

4058592875. ΔG is zero for a reversible reaction

4058592876. ΔG is positive for a spontaneous reaction

4058592877. ΔG is negative for a spontaneous reaction

4058592878. ΔG is positive for a non-spontaneous reaction

Question Number : 62 Question Id : 405859896 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित में से कौन-सा सही <u>नहीं</u> है?

Options :

4058592875. किसी उत्क्रमणीय अभिक्रिया के लिए ΔG शून्य होता है।

4058592876. किसी स्वतः प्रवर्तित अभिक्रिया के लिए ΔG धनात्मक होता है।

4058592877. किसी स्वतः प्रवर्तित अभिक्रिया के लिए ΔG ऋणात्मक होता है।

4058592878. किसी अस्वतः प्रवर्तित अभिक्रिया के लिए ΔG धनात्मक होता है।

Question Number : 63 Question Id : 405859897 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Chlorine undergoes disproportionation in alkaline medium as shown below :

$$a\ Cl_{2(g)} + b\ OH^-_{(aq)} \rightarrow c\ ClO^-_{(aq)} + d\ Cl^-_{(aq)} + e\ H_2O_{(l)}$$

The values of a, b, c and d in a balanced redox reaction are respectively :

Options :

4058592879. 2, 4, 1 and 3

4058592880. 2, 2, 1 and 3

4058592881. 1, 2, 1 and 1

4058592882. 3, 4, 4 and 2

Question Number : 63 Question Id : 405859897 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

क्लोरीन क्षारीय माध्यम में नीचे दर्शाए प्रकार असमानुपातन दर्शाती है:

$$a\ Cl_{2(g)} + b\ OH^-_{(aq)} \rightarrow c\ ClO^-_{(aq)} + d\ Cl^-_{(aq)} + e\ H_2O(l)$$

संतुलित रेडॉक्स अभिक्रिया में a, b, c और d के मान क्रमशः है:

Options :

4058592879. 2, 4, 1 और 3

4058592880. 2, 2, 1 और 3

4058592881. 1, 2, 1 और 1

4058592882. 3, 4, 4 और 2

Question Number : 64 Question Id : 405859898 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Given below are two statements : one is labelled as **Assertion A** and the other is labelled as **Reason R** :

Assertion A : The first ionisation enthalpy decreases across a period.

Reason R : The increasing nuclear charge outweighs the shielding across the period.

In the light of the above statements, choose the ***most appropriate*** from the options given below :

Options :

4058592883. Both **A** and **R** are true and **R** is the correct explanation of **A**

4058592884. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**

4058592885. **A** is true but **R** is false

4058592886. **A** is false but **R** is true

Question Number : 64 Question Id : 405859898 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

नीचे दो कथन दिए गए है। एक को अभिकथन A और दूसरे को कारण R द्वारा दर्शाया गया है:

अभिकथन A : किसी आवर्त में, प्रथम आयनन एंथैल्पी घटती जाती है।

कारण R : आवर्त में बढ़ता नाभिकीय आवेश परिरक्षण से अधिक हो जाता है।

उपर दिए गए कथनों के संदर्भ में निम्नलिखित विकल्पों में से सही उत्तर चुनिए:

Options :

4058592883. A और R दोनों सत्य हैं और R, A की सही व्याख्या है।

4058592884. A और R दोनों सत्य हैं और R, A की सही व्याख्या नहीं है।

4058592885. A सत्य है परन्तु R असत्य है।

4058592886. A असत्य है परन्तु R सत्य है।

Question Number : 65 Question Id : 405859899 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Identify the incorrect pair from the following :

Options :

4058592887. Cryolite – Na_3AlF_6

4058592888. Carnallite – $KCl \cdot MgCl_2 \cdot 6H_2O$

4058592889. Fluorspar – BF_3

4058592890. Fluoroapatite – 3 $Ca_3(PO_4)_2 \cdot CaF_2$

Question Number : 65 Question Id : 405859899 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित में से गलत युगल चुनिए:

Options :

4058592887. क्रायोलाइट – Na_3AlF_6

4058592888. कार्नालाइट – $KCl \cdot MgCl_2 \cdot 6H_2O$

4058592889. फ्लुओस्पार – BF_3

4058592890. फ्लुओरोएपाडाइट – 3 $Ca_3(PO_4)_2 \cdot CaF_2$

Question Number : 66 Question Id : 405859900 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Given below are two statements :

Statement I : The electronegativity of group 14 elements from Si to Pb, gradually decreases.

Statement II : Group 14 contains non-metallic, metallic, as well as metalloid elements.

In the light of the above statements, choose the ***most appropriate*** from the options given below :

Options :

4058592891. Both Statement I and Statement II are true

4058592892. Both Statement I and Statement II are false

4058592893. Statement I is true but Statement II is false

4058592894. Statement I is false but Statement II is true

Question Number : 66 Question Id : 405859900 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

नीचे दो कथन दिए गए हैः

कथन I : समूह 14 तत्वों में Si से Pb की ओर जाने पर विद्युत-ऋणात्मकता धीरे-धीरे कम होती जाती है।

कथन II : समूह 14 में अधातिवक धात्विक और उपधातु तत्व उपस्थित होते हैं।

उपर दिए गए कथनों के संदर्भ में, नीचे दिए विकल्पों में से सही उत्तर चुनिए.

Options :

4058592891. कथन I और कथन II दोनों सत्य है।

4058592892. कथन I और कथन II दोनों असत्य है।

4058592893. कथन I सत्य है परन्तु कथन II असत्य है।

4058592894. कथन I असत्य है परन्तु कथन II सत्य है।

Question Number : 67 Question Id : 405859901 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

$KMnO_4$ decomposes on heating at 513K to form O_2 along with

Options :

4058592895. MnO_2 & K_2O_2

4058592896. K_2MnO_4 & MnO_2

4058592897. Mn & KO_2

4058592898. K_2MnO_4 & Mn

Question Number : 67 Question Id : 405859901 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

$KMnO_4$, 513K पर गरम करने पर O_2 और उसके साथ बनाता है:

Options :

4058592895. MnO_2 और K_2O_2

4058592896. K_2MnO_4 और MnO_2

4058592897. Mn और KO_2

4058592898. K_2MnO_4 और Mn

Question Number : 68 Question Id : 405859902 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

In alkaline medium, MnO_4^- oxidises I^- to

Options :

4058592899. IO_3^-

4058592900. I_2

4058592901. IO^-

4058592902. IO_4^-

Question Number : 68 Question Id : 405859902 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

क्षारीय माध्यम में, MnO_4^- , I^- को अपचयित करता है:

Options :

4058592899. IO_3^- में

4058592900. I_2 में

4058592901. IO^- में

4058592902. IO_4^- में

Question Number : 69 Question Id : 405859903 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

In which one of the following metal carbonyls, CO forms a bridge between metal atoms?

Options :

4058592903. $[Mn_2(CO)_{10}]$

4058592904. $[Co_2(CO)_8]$

4058592905. $[Os_3(CO)_{12}]$

4058592906. $[Ru_3(CO)_{12}]$

Question Number : 69 Question Id : 405859903 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित धातु कार्बोनिलों में से किसमें, CO, धातु परमाणुओं के बीच सेतु बनाता है?

Options :

4058592903. $[Mn_2(CO)_{10}]$

4058592904. $[Co_2(CO)_8]$

4058592905. $[Os_3(CO)_{12}]$

4058592906. $[Ru_3(CO)_{12}]$

Question Number : 70 Question Id : 405859904 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Match List I with List II

LIST I (Substances)		**LIST II (Element Present)**	
A.	Ziegler catalyst	I.	Rhodium
B.	Blood Pigment	II.	Cobalt
C.	Wilkinson catalyst	III.	Iron
D.	Vitamin B_{12}	IV.	Titanium

Choose the correct answer from the options given below:

Options :

4058592907. A-IV, B-III, C-I, D-II

4058592908. A-II, B-III, C-IV, D-I

4058592909. A-III, B-II, C-IV, D-I

4058592910. A-II, B-IV, C-I, D-III

Question Number : 70 Question Id : 405859904 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

सूची I को सूची II के साथ मिलाइए:

सूची I (पदार्थ)		सूची II (उपस्थित तत्व)	
A.	ज़िगलर उत्प्रेरक	I.	रोडियम
B.	रक्त रंजक	II.	कोबाल्ट
C.	विल्किंसन उत्प्रेरक	III.	आयरन
D.	विटामिन B_{12}	IV.	टाइटेनियम

नीचे दिए गए विकल्पों में से सही उत्तर चुनें:

Options :

4058592907. A-IV, B-III, C-I, D-II

4058592908. A-II, B-III, C-IV, D-I

4058592909. A-III, B-II, C-IV, D-I

4058592910. A-II, B-IV, C-I, D-III

Question Number : 71 Question Id : 405859905 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Appearance of blood red colour, on treatment of the sodium fusion extract of an organic compound with $FeSO_4$ in presence of concentrated H_2SO_4 indicates the presence of element/s

Options :

4058592911. N

4058592912. S

4058592913. N and S

4058592914. Br

Question Number : 71 Question Id : 405859905 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

किसी कार्बनिक पदार्थ के सोडियम गलन निष्कर्ष के सांद्र H_2SO_4 की उपस्थिति में $FeSO_4$ के साथ उपचार से, रक्त लाल रंग का प्रदर्शित होना निम्नलिखित तत्व/तत्वों की उपस्थिति इंगित करता है:

Options :

4058592911. N

4058592912. S

4058592913. N और S

4058592914. Br

Question Number : 72 Question Id : 405859906 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

The interaction between π bond and lone pair of electrons present on an adjacent atom is responsible for

Options :

4058592915. Electromeric effect

4058592916. Resonance effect

4058592917. Hyperconjugation

4058592918. Inductive effect

Question Number : 72 Question Id : 405859906 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

π -आबंध और निकटतम परमाणु पर उपस्थित इलेक्ट्रॉनों के एकाकी युगल के बीच अन्योन्य क्रिया उत्तरदायी होती है:

Options :

4058592915. इलेक्ट्रोमरी प्रभाव के लिए

4058592916. अनुनाद प्रभाव के लिए

4058592917. अति संयुग्मन के लिए

4058592918. प्रेरणिक प्रभाव के लिए

Question Number : 73 Question Id : 405859907 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

The difference in energy between the actual structure and the lowest energy resonance structure for the given compound is

Options :

4058592919. resonance energy

4058592920. ionization energy

4058592921. hyperconjugation energy

4058592922. electromeric energy

Question Number : 73 Question Id : 405859907 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

किसी दिए गए यौगिक के लिए वास्तविक संरचना और निम्नतम ऊर्जा अनुनाद संरचना के बीच अंतर _____ होता है।

Options :

4058592919. अनुनाद ऊर्जा

4058592920. आयनन ऊर्जा

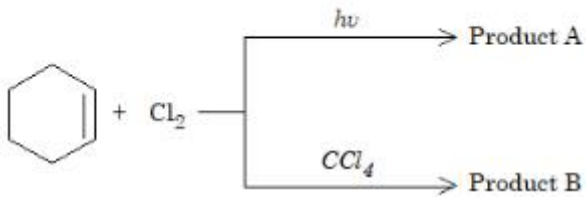
4058592921. अति संयुग्मन ऊर्जा

4058592922. इलेक्ट्रोमरी ऊर्जा

Question Number : 74 Question Id : 405859908 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

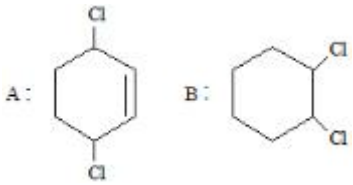
Correct Marks : 4 Wrong Marks : 1

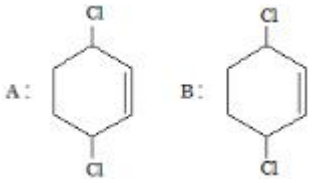
Identify product A and product B :

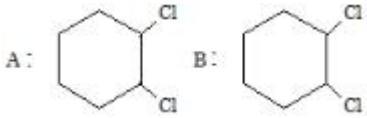


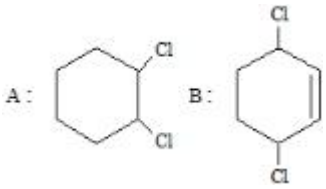
Options :

4058592923.



4058592924. 

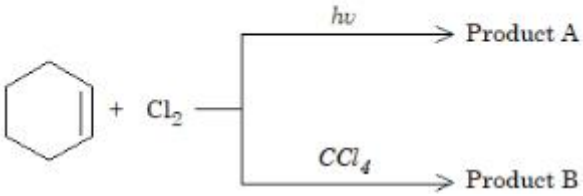
4058592925. 

4058592926. 

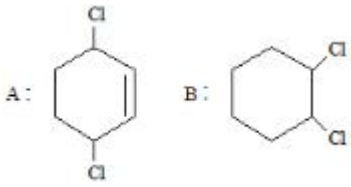
Question Number : 74 Question Id : 405859908 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

उत्पाद A और उत्पाद B को पहचानिए

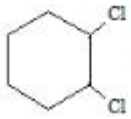
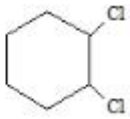


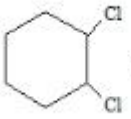
Options :

4058592923. 

4058592924.

A:  B: 

4058592925. A:  B: 

4058592926. A:  B: 

Question Number : 75 Question Id : 405859909 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Given below are two statements : one is labelled as **Assertion A** and the other is labelled as **Reason R** :
Assertion A : Aryl halides cannot be prepared by replacement of hydroxyl group of phenol by halogen atom.
Reason R : Phenols react with halogen acids violently.
In the light of the above statements, choose the ***most appropriate*** from the options given below :

Options :

4058592927. Both **A** and **R** are true and **R** is the correct explanation of **A**

4058592928. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**

4058592929. **A** is true but **R** is false

4058592930. **A** is false but **R** is true

Question Number : 75 Question Id : 405859909 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

नीचे दो कथन दिए गए है। एक को अभिकथन A और दूसरे को कारण R द्वारा दर्शाया गया है:

अभिकथन A : ऐरिल हैलाइडों को फीनॉल के हाइड्रॉक्सिल समूह के हैलोजन परमाणु द्वारा प्रतिस्थापन से बनाया नहीं जा सकता है।

कारण R : फ़ीनॉल हैलोजन अम्लों के साथ विस्फोटक रूप से अभिक्रिया करती है।

उपर दिए गए कथनों के संदर्भ में निम्नलिखित विकल्पों में से सही उत्तर चुनिए:

Options :

4058592927. A और R दोनों सत्य हैं और R, A की सही व्याख्या है।

4058592928. A और R दोनों सत्य हैं और R, A की सही व्याख्या नहीं है।

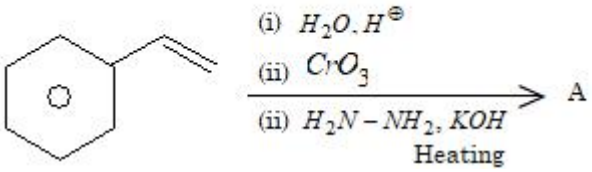
4058592929. A सत्य है परन्तु R असत्य है।

4058592930. A असत्य है परन्तु R सत्य है।

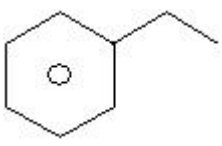
Question Number : 76 Question Id : 405859910 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

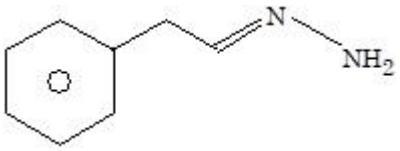
Correct Marks : 4 Wrong Marks : 1

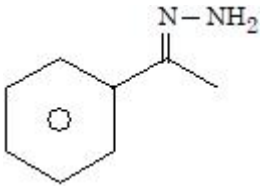
The final product A formed in the following multistep reaction sequence is

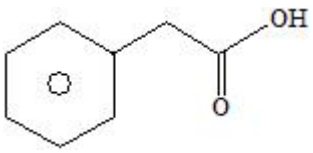


Options :

4058592931. 

4058592932. 

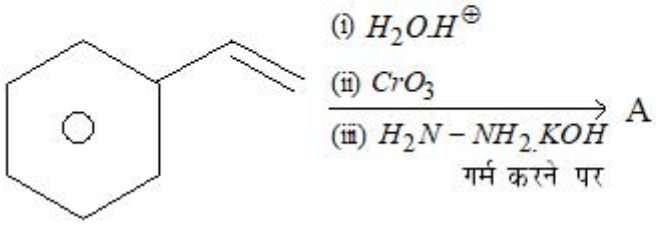
4058592933. 

4058592934. 

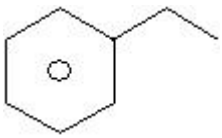
Question Number : 76 Question Id : 405859910 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

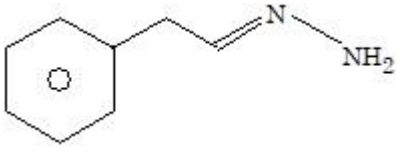
Correct Marks : 4 Wrong Marks : 1

निम्नलिखित बहुचरण अभिक्रिया क्रम में बना अंतिम उत्पाद A हैः

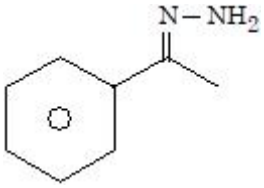


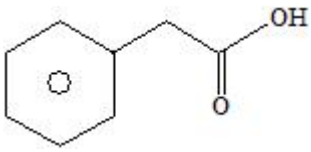
Options :

4058592931. 

4058592932. 

4058592933.

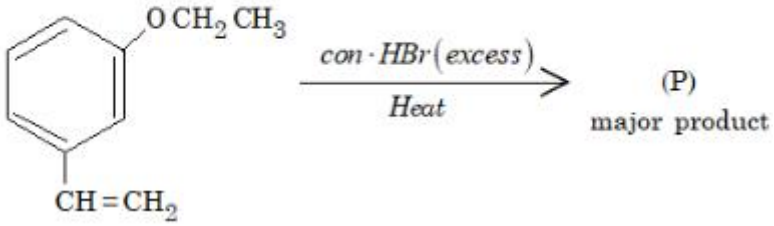


4058592934. 

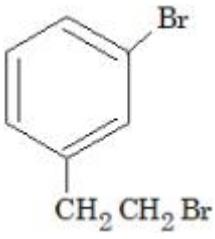
Question Number : 77 Question Id : 405859911 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

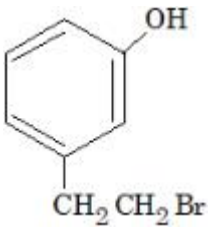
Correct Marks : 4 Wrong Marks : 1

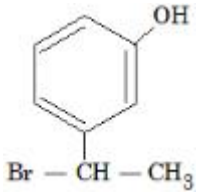
The major product(P) in the following reaction is

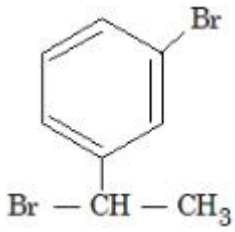


Options :

4058592935. 

4058592936. 

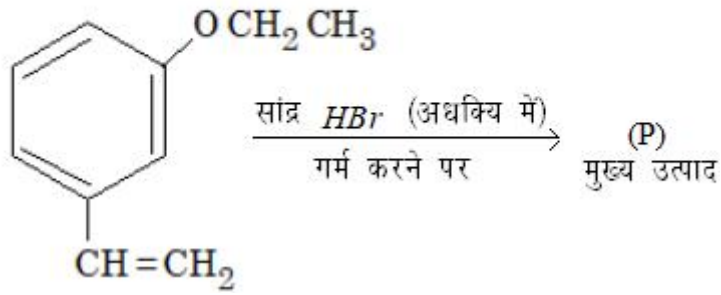
4058592937. 

4058592938. 

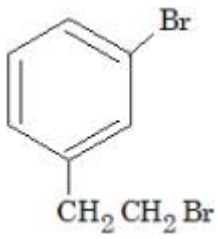
Question Number : 77 Question Id : 405859911 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

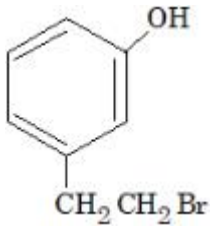
Correct Marks : 4 Wrong Marks : 1

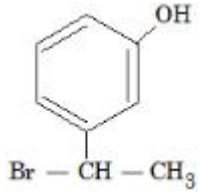
निम्नलिखित अभिक्रिया का मुख्य उत्पाद (P) है:

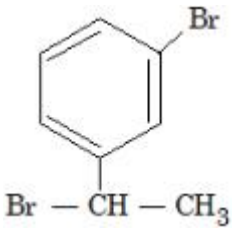


Options :

4058592935. 

4058592936. 

4058592937. 

4058592938. 

Question Number : 78 Question Id : 405859912 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Type of amino acids obtained by hydrolysis of proteins is :

Options :

4058592939. α

4058592940. β

4058592941. γ

4058592942. δ

Question Number : 78 Question Id : 405859912 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

प्रोटीनों के जल-अपघटन से प्राप्त ऐमीनो अम्लों का प्रकार हैः

Options :

4058592939. α

4058592940. β

4058592941. γ

4058592942. δ

Question Number : 79 Question Id : 405859913 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

In chromyl chloride test for confirmation of Cl^- ion, a yellow solution is obtained. Acidification of the solution and addition of amyl alcohol and 10% H_2O_2 turns organic layer blue indicating formation of chromium pentoxide. The oxidation state of chromium in that is

Options :

4058592943. $+10$

4058592944. $+6$

4058592945. $+3$

4058592946. $+5$

Question Number : 79 Question Id : 405859913 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Cl^- आयनों की पुष्टि के लिए क्रोमिल क्लोराइड परीक्षण में एक पीला विलयन प्राप्त होता है। विलयन के अम्लीकरण और एमिल ऐल्कोहॉल तथा 10% H_2O_2 को मिलाने पर कार्बनिक परत, नीली हो जाती है जो क्रोमियम पेन्टॉक्साइड का बनना इंगित करता है। उसमें क्रोमियम की आक्सीकरण अवस्था हैः

Options :

4058592943. +10

4058592944. +6

4058592945. +3

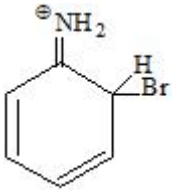
4058592946. +5

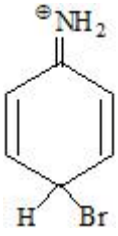
Question Number : 80 Question Id : 405859914 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

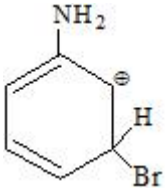
Correct Marks : 4 Wrong Marks : 1

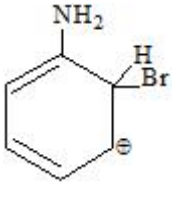
The arenium ion which is not involved in the bromination of Aniline is _____.

Options :

4058592947. 

4058592948. 

4058592949. 

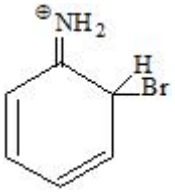
4058592950. 

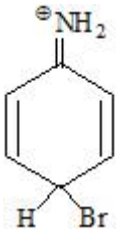
Question Number : 80 Question Id : 405859914 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

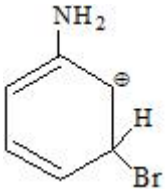
Correct Marks : 4 Wrong Marks : 1

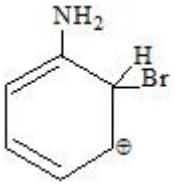
ऐनिलीन के ब्रोमीनीकरण में जो ऐरीनियम आयन सम्मिलित नहीं होता है, वह _____ है।

Options :

4058592947. 

4058592948. 

4058592949. 

4058592950. 

Chemistry Section B

Section Id : 40585955

Section Number : 6

Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	10
Number of Questions to be attempted :	5
Section Marks :	20
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	40585955
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 81 Question Id : 405859915 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

A solution of H_2SO_4 is 31.4% H_2SO_4 by mass and has a density of 1.25g/mL.

The molarity of the H_2SO_4 solution is _____ M (nearest integer)

[Given molar mass of $H_2SO_4 = 98g\ mol^{-1}$]

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 81 Question Id : 405859915 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

H_2SO_4 का एक विलयन H_2SO_4 के द्रव्यमान द्वारा 31.4% है और उसका घनत्व 1.25g/mL है।

H_2SO_4 विलयन की मोलरता _____ M (निकटतम पूर्णांक) है।

[दिया गया है: H_2SO_4 का मोलर द्रव्यमान = $98g\ mol^{-1}$ है।]

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 82 Question Id : 405859916 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

The number of species from the following which are paramagnetic and with bond order equal to one is _____.

H_2 ,He_2^+,O_2^+,N_2^{2-} ,O_2^{2-},F_2 ,Ne_2^+ ,B_2

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 82 Question Id : 405859916 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित में से उन स्पीशीज़ की संख्या जो अनुचुंबकीय हैं और जिनका आबंध क्रम एक के बराबर है, _____ है।

H_2 ,He_2^+,O_2^+,N_2^{2-} ,O_2^{2-},F_2 ,Ne_2^+ ,B_2

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 83 Question Id : 405859917 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Number of compounds with one lone pair of electrons on central atom amongst following is _____

O_3, H_2O, SF_4, ClF_3, NH_3, BrF_5, XeF_4

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 83 Question Id : 405859917 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित में से उन यौगिकों की संख्या जिनमें केन्द्रीय परमाणु पर इलेक्ट्रॉनों का एक एकाकी युगल उपस्थित होता है, _____ है।

O_3, H_2O, SF_4, ClF_3, NH_3, BrF_5, XeF_4

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 84 Question Id : 405859918 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

The osmotic pressure of a dilute solution is 7×10^5 Pa at 273K. Osmotic pressure of the same solution at 283K is _____$\times10^4$ Nm^{-2}.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 84 Question Id : 405859918 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

273K पर एक तनु विलयन का परासरण दाब 7×10^5 Pa है। 283K पर उसी विलयन का परासरण दाब _____$\times10^4$ Nm^{-2} है।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 85 Question Id : 405859919 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

For the reaction $N_2O_{4(g)} \rightleftarrows 2NO_{2(g)}$, $K_p = 0.492$ atm at 300K. K_c for the reaction at same temperature is _____ $\times 10^{-2}$.

(Given : R = 0.082 L atm mol^{-1} K^{-1})

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 85 Question Id : 405859919 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

अभिक्रिया $N_2O_{4(g)} \rightleftarrows 2NO_{2(g)}$ के लिए, 300K पर $K_p = 0.492$ atm है। उसी अभिक्रिया के लिए, उसी ताप पर, K_c का मान _____ $\times 10^{-2}$ है।

(दिया गया है : R = 0.082 L atm mol^{-1} K^{-1})

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 86 Question Id : 405859920 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

The mass of zinc produced by the electrolysis of zinc sulphate solution with a steady current of 0.015 A for 15 minutes is _____ $\times 10^{-4}$ g.

(Atomic mass of zinc = 65.4 amu)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 86 Question Id : 405859920 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

15 मिनट के लिए 0.015 A की स्थिर वैद्युत-धारा द्वारा जिंक सल्फेट विलयन के विद्युत-अपघटन द्वारा प्राप्त जिंक का द्रव्यमान _____ $\times 10^{-4}$ g है।

(जिंक का परमाणु द्रव्यमान = 65.4 amu है।)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 87 Question Id : 405859921 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

For a reaction taking place in three steps at same temperature, overall rate constant $K=\frac{K_1K_2}{K_3}$. If Ea_1, Ea_2 and Ea_3 are 40, 50 and 60 kJ/mol respectively, the overall Ea is _____ kJ/mol.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 87 Question Id : 405859921 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

समान ताप पर तीन चरणों में होने वाली अभिक्रिया के लिए समग्र वेग नियतांक, $K=\frac{K_1K_2}{K_3}$ है। यदि Ea_1, Ea_2 और Ea_3 क्रमशः 40, 50 और 60 kJ/mol हों, तो समग्र Ea _____ kJ/mol है।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 88 Question Id : 405859922 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Number of compounds among the following which contain sulphur as heteroatom is _____.

Furan, Thiophene, Pyridine, Pyrrole, Cysteine, Tyrosine

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 88 Question Id : 405859922 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

उन यौगिकों की संख्या जिनमें सल्फर विषम परमाणु के रूप में उपस्थित होता है, _____ है।

- फ्यूरेन,

- थायोफीन,

- पिरीडीन,

- पिरोल,

- सिस्टीन

- टायरोसीन

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

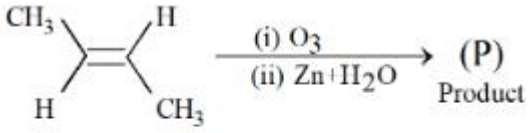
Text Areas : PlainText

Possible Answers :

1

Question Number : 89 Question Id : 405859923 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1



Consider the given reaction. The total number of oxygen atom/s present per molecule of the product (P) is _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

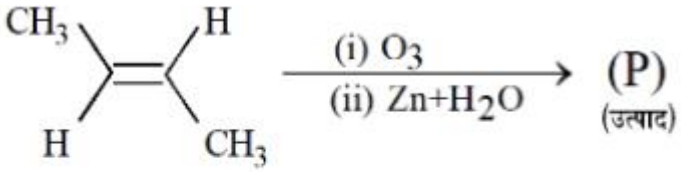
Text Areas : PlainText

Possible Answers :

1

Question Number : 89 Question Id : 405859923 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1



दी गई अभिक्रिया पर विचार कीजिए। उत्पाद (P) के प्रति अणु उपस्थित ऑक्सीजन परमाणुओं की कुल संख्या _____ है।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 90 Question Id : 405859924 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

From the compounds given below, number of compounds which give positive Fehling's test is _____.

Benzaldehyde, Acetaldehyde, Acetone, Acetophenone, Methanal, 4-nitrobenzaldehyde, cyclohexane carbaldehyde.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 90 Question Id : 405859924 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

नीचे दिए गए यौगिकों में से, उन यौगिकों की संख्या जो घनात्मक फेलिंग परीक्षण देते हैं, _____ है।

बेंजलडिहाइड, ऐसिटल्डिहाइड, ऐसीटोफीनोन, मेथेनैल, 4-नाइट्रोबेन्ज़ैल्डिहाइड, साइक्लोहैक्सेन कार्बेल्डिहाइड

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1