National Testing Agency

Question Paper Name :	143
Subject Name :	B TECH
Creation Date :	2023-04-15 15:54:26
Duration :	180
Total Marks :	300
Display Marks:	Yes

B E and B Tech

Group Number :	1
Group Id :	36669432
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 :	366694178
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 :	366694178
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 1 Question Id : 3666943201 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 domain of the function

$$f(x)=\log_e\left(4x^2+11x+6\right)+\sin^{-1}(4x+3)+\cos^{-1}\left(\frac{10x+6}{3}\right)$$ is $(\alpha, \beta]$, then

$36\,|\alpha+\beta|$ is equal to

Options :

3666949971. 45

3666949972. 54

3666949973. 63

3666949974. 72

Question Number : 1 Question Id : 3666943201 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 फलन $f(x)=\log_e\left(4x^2+11x+6\right)+\sin^{-1}(4x+3)+\cos^{-1}\left(\frac{10x+6}{3}\right)$ का प्रांत $(\alpha, \beta]$ है, तो $36|\alpha+\beta|$ बराबर है

Options :

3666949971. 45

3666949972. 54

3666949973. 63

3666949974. 72

Question Number : 2 Question Id : 3666943202 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 number of real roots of the equation $x|x|-5|x+2|+6=0$, is

Options :

3666949975. 6

3666949976. 3

5

3666949978. 4

Question Number : 2 Question Id : 3666943202 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

समीकरण $x|x|-5|x+2|+6=0$ के वास्तविक मूलों की संख्या है:

Options :

3666949975. 6

3666949976. 3

3666949977. 5

3666949978. 4

Question Number : 3 Question Id : 3666943203 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 set $\left\{\mathrm{Re}\left(\frac{z-\overline{z}+z\overline{z}}{2-3z+5\overline{z}}\right): z\in\mathbb{C},\ \mathrm{Re}(z)=3\right\}$ is equal to the interval $(\alpha,\beta]$, then $24(\beta-\alpha)$ is equal to

Options :

3666949979. 27

3666949980. 30

3666949981. 36

3666949982. 42

Question Number : 3 Question Id : 3666943203 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 समुच्चय $\left\{\mathrm{Re}\left(\frac{z-\bar{z}+z\bar{z}}{2-3z+5\bar{z}}\right): z \in \mathbb{C}, \mathrm{Re}(z)=3\right\}$ अंतराल $(\alpha, \beta]$ के बराबर है, तो $24(\beta-\alpha)$ का मान है:

Options :

3666949979. 27

3666949980. 30

3666949981. 36

3666949982. 42

Question Number : 4 Question Id : 3666943204 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 the determinant of a square matrix A of order m be $m-n$, where m and n satisfy $4m+n=22$ and $17m+4n=93$. If $det\left(n\ adj\left(adj\left(mA\right)\right)\right)=3^a5^b6^c$, then $a+b+c$ is equal to

Options :

3666949983. 84

3666949984. 96

3666949985. 101

3666949986. 109

Question Number : 4 Question Id : 3666943204 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 m कोटि के एक वर्ग आव्यूह A का सारणिक $m-n$ है, जहाँ m तथा n समीकरणों $4m+n=22$ तथा $17m+4n=93$ को संतुष्ट करते हैं।
यदि $det\left(n\ adj\left(adj\left(mA\right)\right)\right)=3^a5^b6^c$ है, तो $a+b+c$ बराबर है

Options :

3666949983. 84

3666949984. 96

101

3666949986. 109

Question Number : 5 Question Id : 3666943205 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 the system of linear equations

$-x+2y-9z=7$

$-x+3y+7z=9$

$-2x+y+5z=8$

$-3x+y+13z=\lambda$

has a unique solution $x=\alpha,\ y=\beta,\ z=\gamma$. Then the distance of the point (α, β, γ) from the plane $2x-2y+z=\lambda$ is

Options :

3666949987. 7

3666949988. 9

3666949989. 11

3666949990. 13

Question Number : 5 Question Id : 3666943205 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 रैखिक समीकरण निकाय

$$-x+2y-9z=7$$
$$-x+3y+7z=9$$
$$-2x+y+5z=8$$
$$-3x+y+13z=\lambda$$

का अद्वितीय हल $x=\alpha, y=\beta, z=\gamma$ है। तो बिंदु (α, β, γ) की समतल $2x-2y+z=\lambda$ से दूरी है:

Options :

3666949987. 7

3666949988. 9

3666949989. 11

3666949990. 13

Question Number : 6 Question Id : 3666943206 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 total number of three-digit numbers, divisible by 3, which can be formed using the digits 1, 3, 5, 8, if repetition of digits is allowed, is

Options :

3666949991. 18

3666949992. 20

3666949993. 21

3666949994. 22

Question Number : 6 Question Id : 3666943206 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 अंकों की पुनरावृत्ति की अनुमति है, तो अंकों 1, 3, 5, 8 के प्रयोग से, 3 से विभाज्य तीन-अंकों की बनाई जा सकने वाली संख्याओं की कुल संख्या है:

Options :

3666949991. 18

3666949992. 20

3666949993. 21

3666949994. 22

Question Number : 7 Question Id : 3666943207 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 $\left(a+bx+cx^2\right)^{10}=\sum_{i=0}^{20} p_i x^i$, $a, b, c \in \mathbb{N}$. If $p_1=20$ and $p_2=210$, then $2(a+b+c)$ is equal to

Options :

3666949995. 6

3666949996. 8

3666949997. 12

3666949998. 15

Question Number : 7 Question Id : 3666943207 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 $\left(a+bx+cx^2\right)^{10}=\sum_{i=0}^{20} p_i x^i,\ a,b,c\in\mathbb{N}$ है। यदि $p_1=20$ तथा $p_2=210$ हैं, तो $2(a+b+c)$ बराबर है

Options :

3666949995. 6

3666949996. 8

3666949997. 12

3666949998. 15

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_1 and A_2 be two arithmetic means and G_1, G_2, G_3 be three geometric means of two distinct positive numbers. Then $G_1^4 + G_2^4 + G_3^4 + G_1^2 G_3^2$ is equal to

Options :

3666949999. $2(A_1 + A_2)G_1 G_3$

36669410000. $(A_1 + A_2)G_1^2 G_3^2$

36669410001. $(A_1 + A_2)^2 G_1 G_3$

3666941000 2. $2(A_1 + A_2)G_1^2 G_3^2$

Question Number : 8 Question Id : 3666943208 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 दो भिन्न धनात्मक संख्याओं के दो समांतर माध्य A_1 तथा A_2 और तीन गुणोत्तर माध्य G_1, G_2, G_3 हैं। तो $G_1^4 + G_2^4 + G_3^4 + G_1^2 G_3^2$ बराबर है:

Options :

3666949999. $2(A_1 + A_2)G_1 G_3$

36669410000. $(A_1 + A_2)G_1^2 G_3^2$

36669410001. $(A_1 + A_2)^2 G_1 G_3$

36669410002. $2(A_1 + A_2) G_1^2 G_3^2$

Question Number : 9 Question Id : 3666943209 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 $[x]$ denote the greatest integer function and $f(x) = \max\{1 + x + [x], 2 + x, x + 2[x]\}$, $0 \le x \le 2$. Let m be the number of points in $[0, 2]$, where f is not continuous and n be the number of points in $(0, 2)$, where f is not differentiable. Then $(m+n)^2 + 2$ is equal to

Options :

36669410003. 2

36669410004. 3

36669410005. 6

36669410006. 11

Question Number : 9 Question Id : 3666943209 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 $[x]$ महत्तम पूर्णांक फलन है तथा $f(x)=\max\{1+x+[x], 2+x, x+2[x]\}$, $0\le x\le 2$ है। माना $[0, 2]$ में उन बिंदुओं, जहाँ f संतत नहीं है, की संख्या m है, तथा उन बिंदुओं, जहाँ f अवकलनीय नहीं है, की संख्या n है। तो $(m+n)^2+2$ बराबर है:

Options :

36669410003. 2

36669410004. 3

36669410005. 6

36669410006. 11

Question Number : 10 Question Id : 3666943210 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 $\int_0^1 \frac{1}{\left(5+2x-2x^2\right)\left(1+e^{(2-4x)}\right)}dx=\frac{1}{\alpha}\log_e\left(\frac{\alpha+1}{\beta}\right)$, $\alpha, \beta>0$, then $\alpha^4-\beta^4$ is equal to

Options :

36669410007. -21

36669410008. 0

36669410009. 19

21

Question Number : 10 Question Id : 3666943210 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 $\int_0^1 \frac{1}{\left(5+2x-2x^2\right)\left(1+e^{(2-4x)}\right)}dx = \frac{1}{\alpha}\log_e\left(\frac{\alpha+1}{\beta}\right)$, $\alpha, \beta > 0$ है, तो $\alpha^4 - \beta^4$ बराबर है:

Options :

36669410007. -21

36669410008. 0

36669410009. 19

36669410010. 21

Question Number : 11 Question Id : 3666943211 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 $x = x(y)$ be the solution of the differential equation

$2(y+2)\log_e(y+2)dx + \left(x+4-2\log_e(y+2)\right)dy = 0,\ y > -1$

with $x\left(e^4-2\right)=1$. Then $x\left(e^9-2\right)$ is equal to

Options :

36669410011. 3

36669410012. $\frac{10}{3}$

36669410013. $\frac{4}{9}$

36669410014. $\frac{32}{9}$

Question Number : 11 Question Id : 3666943211 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 अवकल समीकरण

$2(y+2)\log_e(y+2)dx+\left(x+4-2\log_e(y+2)\right)dy=0,\ \ y>-1,\ \ x\left(e^4-2\right)=1$

का हल $x=x(y)$ है। तो $x\left(e^9-2\right)$ बराबर है:

Options :

36669410011. 3

36669410012. $\frac{10}{3}$

36669410013. $\frac{4}{9}$

36669410014.

$\frac{32}{9}$

Question Number : 12 Question Id : 3666943212 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 (α, β) is the orthocenter of the triangle ABC with vertices $A(3, -7)$, $B(-1, 2)$ and $C(4, 5)$, then $9\alpha - 6\beta + 60$ is equal to

Options :

36669410015. 25

36669410016. 30

36669410017. 35

36669410018. 40

Question Number : 12 Question Id : 3666943212 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 शीर्षों $A(3, -7)$, $B(-1, 2)$ तथा $C(4, 5)$ के त्रिभुज ABC का लंबकेन्द्र (α, β) है, तो $9\alpha - 6\beta + 60$ बराबर है:

Options :

36669410015. 25

36669410016. 30

36669410017. 35

36669410018. 40

Question Number : 13 Question Id : 3666943213 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 number of common tangents, to the circles $x^2+y^2-18x-15y+131=0$ and $x^2+y^2-6x-6y-7=0$, is

Options :

36669410019. 1

36669410020. 2

36669410021. 3

36669410022. 4

Question Number : 13 Question Id : 3666943213 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

वृत्तों $x^2+y^2-18x-15y+131=0$ तथा $x^2+y^2-6x-6y-7=0$ के उभयनिष्ठ स्पर्श रेखाओं की संख्या है

Options :

36669410019. 1

36669410020. 2

36669410021. 3

36669410022. 4

Question Number : 14 Question Id : 3666943214 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 the foot of perpendicular of the point $P(3,-2,-9)$ on the plane passing through the points $(-1,-2,-3)$, $(9,3,4)$, $(9,-2,1)$ be $Q(\alpha,\beta,\gamma)$. Then the distance of Q from the origin is

Options :

36669410023. $\sqrt{35}$

36669410024. $\sqrt{38}$

36669410025. $\sqrt{29}$

36669410026. $\sqrt{42}$

Question Number : 14 Question Id : 3666943214 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 बिंदु $P(3, -2, -9)$ का बिंदुओं (–1, –2, –3), (9, 3, 4), (9, –2, 1) से होकर जाने वाले समतल पर लंब का पाद $Q(\alpha, \beta, \gamma)$ है। तो मूलबिंदु से Q की दूरी है:

Options :

36669410023. $\sqrt{35}$

36669410024. $\sqrt{38}$

36669410025. $\sqrt{29}$

36669410026. $\sqrt{42}$

Question Number : 15 Question Id : 3666943215 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 S be the set of all values of λ, for which the shortest distance between the lines $\frac{x-\lambda}{0}=\frac{y-3}{4}=\frac{z+6}{1}$ and $\frac{x+\lambda}{3}=\frac{y}{-4}=\frac{z-6}{0}$ is 13. Then $8\left|\sum_{\lambda\in S}\lambda\right|$ is equal to

Options :

36669410027. 302

36669410028. 304

36669410029. 306

36669410030. 308

Question Number : 15 Question Id : 3666943215 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 λ के सभी मानों, जिनके लिए रेखाओं $\frac{x-\lambda}{0}=\frac{y-3}{4}=\frac{z+6}{1}$ तथा $\frac{x+\lambda}{3}=\frac{y}{-4}=\frac{z-6}{0}$ के बीच न्यूनतम दूरी 13 है, का समुच्चय S है। तो $8\left|\sum_{\lambda\in S}\lambda\right|$ बराबर है:

Options :

36669410027. 302

36669410028. 304

36669410029. 306

36669410030. 308

Question Number : 16 Question Id : 3666943216 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum

Correct Marks : 4 Wrong Marks : 1

Let S be the set of all (λ, μ) for which the vectors $\lambda\hat{i}-\hat{j}+\hat{k}$, $\hat{i}+2\hat{j}+\mu\hat{k}$ and $3\hat{i}-4\hat{j}+5\hat{k}$, where $\lambda-\mu=5$, are coplanar, then $\sum\limits_{(\lambda, \mu)\in S} 80\left(\lambda^2+\mu^2\right)$ is equal to

Options :

36669410031. 2130

36669410032. 2210

36669410033. 2290

36669410034. 2370

Question Number : 16 Question Id : 3666943216 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 सभी (λ, μ) जिनके लिए सदिश $\lambda\hat{i}-\hat{j}+\hat{k}$, $\hat{i}+2\hat{j}+\mu\hat{k}$ तथा $3\hat{i}-4\hat{j}+5\hat{k}$, जहाँ $\lambda-\mu=5$ है, सहतलीय हैं, का समुच्चय S है, तो $\sum\limits_{(\lambda, \mu)\in S} 80\left(\lambda^2+\mu^2\right)$ बराबर है

Options :

36669410031. 2130

36669410032. 2210

36669410033. 2290

36669410034. 2370

Question Number : 17 Question Id : 3666943217 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 ABCD be a quadrilateral. If E and F are the mid points of the diagonals AC and BD respectively and $\left(\overrightarrow{AB}-\overrightarrow{BC}\right)+\left(\overrightarrow{AD}-\overrightarrow{DC}\right)=k\ \overrightarrow{FE}$, then k is equal to

Options :

36669410035. -4

36669410036. -2

36669410037. 2

36669410038. 4

Question Number : 17 Question Id : 3666943217 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 ABCD एक चतुर्भुज है। यदि विकर्णों AC तथा BD के मध्य बिंदु क्रमशः E तथा F हैं, और $\left(\overrightarrow{AB}-\overrightarrow{BC}\right)+\left(\overrightarrow{AD}-\overrightarrow{DC}\right)=k\ \overrightarrow{FE}$, तो k बराबर है:

Options :

36669410035. -4

36669410036. -2

36669410037. 2

36669410038. 4

Question Number : 18 Question Id : 3666943218 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 bag contains 6 white and 4 black balls. A die is rolled once and the number of balls equal to the number obtained on the die are drawn from the bag at random. The probability that all the balls drawn are white is

Options :

36669410039. $\frac{1}{5}$

36669410040. $\frac{11}{50}$

36669410041. $\frac{9}{50}$

36669410042. $\frac{1}{4}$

Question Number : 18 Question Id : 3666943218 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 थैले में 6 सफेद तथा 4 काली गेंदें हैं। एक पासा एक बार फेंका जाता है तथा थैले में से पासे पर प्राप्त संख्या के बराबर गेंदें यादृच्छया निकाली जाती हैं। निकाली गई सभी गेंदों के सफेद होने की प्रायिकता है:

Options :

36669410039. $\frac{1}{5}$

36669410040. $\frac{11}{50}$

36669410041. $\frac{9}{50}$

36669410042. $\frac{1}{4}$

Question Number : 19 Question Id : 3666943219 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 mean and standard deviation of 10 observations are 20 and 8 respectively. Later on, it was observed that one observation was recorded as 50 instead of 40. Then the correct variance is

Options :

36669410043. 11

36669410044. 12

36669410045. 13

36669410046. 14

Question Number : 19 Question Id : 3666943219 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

10 प्रेक्षणों के माध्य तथा मानक विचलन क्रमशः 20 तथा 8 हैं। बाद में यह पाया गया कि एक प्रेक्षण को 40 के स्थान पर 50 लिया गया था। तो सही प्रसरण है:

Options :

36669410043. 11

36669410044. 12

36669410045. 13

36669410046. 14

Question Number : 20 Question Id : 3666943220 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

Negation of $p \wedge (q \wedge \sim(p \wedge q))$ is

Options :

36669410047. $\sim(p \vee q)$

36669410048. $p \vee q$

36669410049. $(\sim(p \wedge q)) \wedge q$

36669410050. $(\sim(p \wedge q)) \vee p$

Question Number : 20 Question Id : 3666943220 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

$p \wedge (q \wedge \sim(p \wedge q))$ का निषेधन है

Options :

36669410047. $\sim(p \vee q)$

36669410048. $p \vee q$

36669410049. $(\sim(p \wedge q)) \wedge q$

36669410050. $(\sim(p \wedge q)) \vee p$

Mathematics Section B

Section Id :	366694179
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 :	366694179
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 21 Question Id : 3666943221 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

Let $A=\{1,2,3,4\}$ and R be a relation on the set $A\times A$ defined by $R=\{((a,b),(c,d)):2a+3b=4c+5d\}$. Then the number of elements in R is _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 21 Question Id : 3666943221 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

माना $A = \{1, 2, 3, 4\}$ है तथा $A \times A$ पर एक संबंध R निम्न प्रकार परिभाषित है

$R = \{((a, b), (c, d)) : 2a + 3b = 4c + 5d\}$.

तो R में अवयवों की संख्या है:

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 22 Question Id : 3666943222 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

A person forgets his 4-digit ATM pin code. But he remembers that in the code all the digits are different, the greatest digit is 7 and the sum of the first two digits is equal to the sum of the last two digits. Then the maximum number of trials necessary to obtain the correct code is _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 22 Question Id : 3666943222 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

एक व्यक्ति अपना 4-अंकों का ATM पिन कोड भूल जाता है। परन्तु उसे याद है कि कोड के सारे अंक भिन्न हैं, सबसे बड़ा अंक 7 है तथा प्रथम दो अंकों का योग अंतिम 2 अंकों के योग के बराबर है। सही कोड प्राप्त करने के लिए आवश्यक अधिकतम प्रयासों की संख्या है:

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 23 Question Id : 3666943223 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 elements in the set $\{n \in \mathbb{N} : 10 \le n \le 100$ and $3^n - 3$ is a multiple of $7\}$ is _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 23 Question Id : 3666943223 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

समुच्चय $\{n \in \mathbb{N} : 10 \leq n \leq 100$ तथा $3^n - 3, 7$ का एक गुणज है$\}$ में अवयवों की संख्या है:

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 24 Question Id : 3666943224 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 sum of the series

$$\left(\frac{1}{2}-\frac{1}{3}\right)+\left(\frac{1}{2^2}-\frac{1}{2\cdot 3}+\frac{1}{3^2}\right)+\left(\frac{1}{2^3}-\frac{1}{2^2\cdot 3}+\frac{1}{2\cdot 3^2}-\frac{1}{3^3}\right)+$$

$$\left(\frac{1}{2^4}-\frac{1}{2^3\cdot 3}+\frac{1}{2^2\cdot 3^2}-\frac{1}{2\cdot 3^3}+\frac{1}{3^4}\right)+\ldots$$

is $\frac{\alpha}{\beta}$, where α and β are co-prime, then $\alpha+3\beta$ is equal to _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 24 Question Id : 3666943224 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

यदि श्रेणी

$$\left(\frac{1}{2}-\frac{1}{3}\right)+\left(\frac{1}{2^2}-\frac{1}{2\cdot 3}+\frac{1}{3^2}\right)+\left(\frac{1}{2^3}-\frac{1}{2^2\cdot 3}+\frac{1}{2\cdot 3^2}-\frac{1}{3^3}\right)+$$
$$\left(\frac{1}{2^4}-\frac{1}{2^3\cdot 3}+\frac{1}{2^2\cdot 3^2}-\frac{1}{2\cdot 3^3}+\frac{1}{3^4}\right)+\ldots$$

का योग $\frac{\alpha}{\beta}$ है, जहाँ α तथा β असहभाज्य हैं, तो $\alpha+3\beta$ बराबर है:

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 25 Question Id : 3666943225 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 triangles with vertices $A(2,1)$, $B(0,0)$ and $C(t,4)$, $t\in[0,4]$. If the maximum and the minimum perimeters of such triangles are obtained at $t=\alpha$ and $t=\beta$ respectively, then $6\alpha+21\beta$ is equal to _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 25 Question Id : 3666943225 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

शीर्षों $A(2,1), B(0,0)$ तथा $C(t,4), t \in [0,4]$ के त्रिभुजों का विचार कीजिए। यदि ऐसे त्रिभुजों के उच्चतम तथा निम्नतम परिमाप क्रमशः $t=\alpha$ तथा $t=\beta$ पर प्राप्त होते हैं, तो $6\alpha+21\beta$ बराबर है:

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 26 Question Id : 3666943226 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

Let $f(x)=\int \frac{dx}{\left(3+4x^2\right)\sqrt{4-3x^2}}$, $|x|<\frac{2}{\sqrt{3}}$. If $f(0)=0$ and $f(1)=\frac{1}{\alpha\beta}\tan^{-1}\left(\frac{\alpha}{\beta}\right)$,

$\alpha, \beta>0$, 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 :

10

Question Number : 26 Question Id : 3666943226 Question Type : SA Calculator : None

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

माना $f(x)=\int \frac{dx}{\left(3+4x^2\right)\sqrt{4-3x^2}}$, $|x|<\frac{2}{\sqrt{3}}$ है। यदि $f(0)=0$ तथा

$f(1)=\frac{1}{\alpha\beta}\tan^{-1}\left(\frac{\alpha}{\beta}\right)$, $\alpha, \beta>0$ है, 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 :

10

Question Number : 27 Question Id : 3666943227 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 area bounded by the curve $2y^2=3x$, lines $x+y=3$, $y=0$ and outside the circle $(x-3)^2+y^2=2$ is A, then $4(\pi+4A)$ is equal to _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 27 Question Id : 3666943227 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

यदि वृत्त $(x-3)^2+y^2=2$ के बाहर, वक्र $2y^2=3x$ तथा रेखाओं $x+y=3$, $y=0$ से परिबद्ध क्षेत्र का क्षेत्रफल A है, तो $4(\pi+4A)$ बराबर है:

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 28 Question Id : 3666943228 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

Let an ellipse with centre (1, 0) and latus rectum of length $\frac{1}{2}$ have its major axis along x-axis. If its minor axis subtends an angle $60°$ at the foci, then the square of the sum of the lengths of its minor and major axes is equal to _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 28 Question Id : 3666943228 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

माना एक दीर्घवृत्त, जिसका केन्द्र (1, 0) पर है तथा नाभिलंब जीवा की लंबाई $\frac{1}{2}$ है, का दीर्घ अक्ष, x-अक्ष के अनुदिश है। यदि इसका लघु अक्ष इसकी नाभि पर 60° का कोण बनाता है, तो इसके लघु तथा दीर्घ अक्षों की लंबाईयों के योग का वर्ग बराबर है:

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 29 Question Id : 3666943229 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

Let the plane P contain the line $2x+y-z-3=0=5x-3y+4z+9$ and be parallel to the line $\frac{x+2}{2}=\frac{3-y}{-4}=\frac{z-7}{5}$. Then the distance of the point A(8, –1, –19) from the plane P measured parallel to the line $\frac{x}{-3}=\frac{y-5}{4}=\frac{2-z}{-12}$ is equal to _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 29 Question Id : 3666943229 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

माना समतल P, रेखा $\frac{x+2}{2}=\frac{3-y}{-4}=\frac{z-7}{5}$ के समांतर है तथा इसमें रेखा

$2x+y-z-3=0=5x-3y+4z+9$ स्थित है। तो बिंदु

A(8, –1, –19) की समतल P से रेखा $\frac{x}{-3}=\frac{y-5}{4}=\frac{2-z}{-12}$ के समांतर मापी गई दूरी

बराबर है:

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 30 Question Id : 3666943230 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 line $x=y=z$ intersects the line

$x\sin A+y\sin B+z\sin C-18=0=x\sin 2A+y\sin 2B+z\sin 2C-9$,

where A, B, C are the angles of a triangle ABC, then $80\left(\sin\frac{A}{2}\sin\frac{B}{2}\sin\frac{C}{2}\right)$

is equal to _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 30 Question Id : 3666943230 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

यदि रेखा $x = y = z$ रेखा

$$x\sin A + y\sin B + z\sin C - 18 = 0 = x\sin 2A + y\sin 2B + z\sin 2C - 9,$$

को काटती है, जहाँ A, B, C एक त्रिभुज ABC का कोण हैं, तो $80\left(\sin\frac{A}{2}\sin\frac{B}{2}\sin\frac{C}{2}\right)$ बराबर है:

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Physics Section A

Section Id :	366694180
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 :	366694180
Question Shuffling Allowed :	Yes

Is Section Default? : null

Question Number : 31 Question Id : 3666943231 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 linear Simple Harmonic Motion (SHM)

(A) Restoring force is directly proportional to the displacement.

(B) The acceleration and displacement are opposite in direction.

(C) The velocity is maximum at mean position.

(D) The acceleration is minimum at extreme points.

Choose the correct answer from the options given below:

Options :

36669410061. (A), (B) and (C) Only

36669410062. (C) and (D) only

36669410063. (A), (C) and (D) only

36669410064. (A), (B) and (D) only

Question Number : 31 Question Id : 3666943231 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 रेखीय सरल आवर्त गति में

(A) प्रत्यानयन बल, विस्थापन के अनुक्रमानुपाती होता है।

(B) त्वरण एवं विस्थापन विपरीत दिशाओं में होते हैं।

(C) माध्य स्थिति में वेग सर्वाधिक होता है।

(D) चरम बिंदुओं पर त्वरण न्यूनतम होता है।

नीचे दिए गए विकल्पों में से सही उत्तर चुनें:

Options :

36669410061. केवल (A), (B) एवं (C)

36669410062. केवल (C) एवं (D)

36669410063. केवल (A), (C) एवं (D)

36669410064. केवल (A), (B) एवं (D)

Question Number : 32 Question Id : 3666943232 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 flask contains Hydrogen and Argon in the ratio 2:1 by mass. The temperature of the mixture is 30°C. The ratio of average kinetic energy per molecule of the two gases (K argon/K hydrogen) is :

(Given: Atomic Weight of Ar = 39.9)

Options :

36669410065. $\frac{39.9}{2}$

36669410066. 1

36669410067. 39.9

36669410068. 2

Question Number : 32 Question Id : 3666943232 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 जार में हाइड्रोजन एवं ऑर्गन गैसें भारीं हैं, जिनके द्रव्यमानों का अनुपात 2:1 है। मिश्रण का तापमान 30°C है। दोनों गैसों के प्रति अणु की औसत गतिज ऊर्जा का अनुपात ($K_{\text{ऑर्गन}}/K_{\text{हाइड्रोजन}}$) है :

(दिया है: Ar का परमाणु भार = 39.9)

Options :

36669410065. $\frac{39.9}{2}$

36669410066. 1

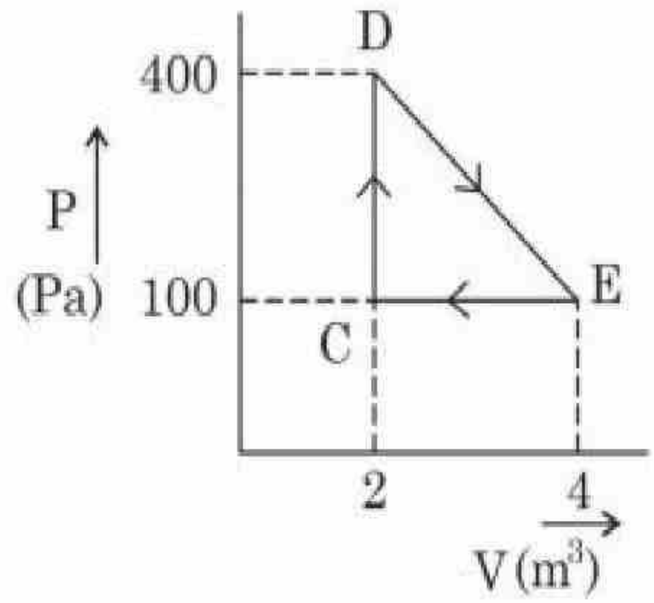
36669410067. 39.9

36669410068. 2

Question Number : 33 Question Id : 3666943233 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 through cyclic process. The total work done in the process is :



Options :

36669410069. Zero

36669410070. 200 J

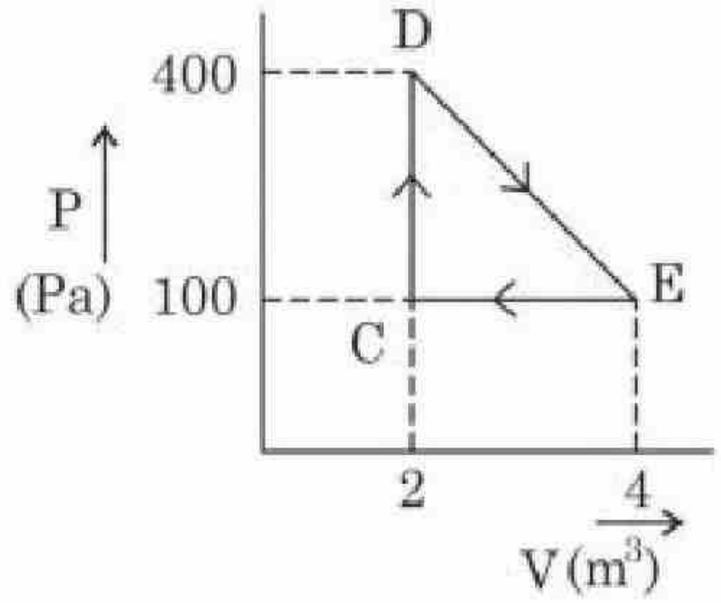
36669410071. 100 J

36669410072. 300 J

Question Number : 33 Question Id : 3666943233 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 उष्मागतिक निकाय को चक्रीय प्रक्रम से गुजारा जाता है। प्रक्रम में किया गया कुल कार्य है:



Options :

36669410069. शून्य

36669410070. $200\ \mathrm{J}$

36669410071. $100\ \mathrm{J}$

36669410072. $300\ \mathrm{J}$

Question Number : 34 Question Id : 3666943234 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 wire of length 'L' and radius 'r' is clamped rigidly at one end. When the other end of the wire is pulled by a force f, its length increases by 'l'. Another wire of same material of length '2L' and radius '$2r$' is pulled by a force '$2f$'. Then the increase in its length will be :

Options :

36669410073. l

36669410074. $2l$

36669410075. $4l$

36669410076. $l/2$

Question Number : 34 Question Id : 3666943234 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

'L' लम्बाई एवं 'r' त्रिज्या वाला कोई तार अपने एक सिरे से दृढ़ता पूर्वक बँधा हुआ है। जब तार का दूसरा सिरा बल f द्वारा खींचा जाता है, तो इसकी लम्बाई में 'l' वृद्धि हो जाती है। समान पदार्थ से बना '2L' लम्बाई एवं '$2r$' त्रिज्या वाला तार इसी प्रकार से '$2f$' बल द्वारा खींचा जाता है। अब लम्बाई में वृद्धि होगी:

Options :

36669410073. l

36669410074. $2l$

36669410075. $4l$

36669410076. $l/2$

Question Number : 35 Question Id : 3666943235 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 is released from a height equal to the radius (R) of the earth. The velocity of the body when it strikes the surface of the earth will be :

(Given g = acceleration due to gravity on the earth)

Options :

36669410077. $\sqrt{2gR}$

36669410078. $\sqrt{4gR}$

36669410079. $\sqrt{\frac{gR}{2}}$

36669410080. $\sqrt{gR}$

Question Number : 35 Question Id : 3666943235 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 की त्रिज्या (R) के बराबर ऊँचाई से एक पिण्ड छोडा जाता है। पृथ्वी के तल से टकराते समय पिण्ड का वेग होगा: (दिया है g = पृथ्वी पर गुरुत्वीय त्वरण)

Options :

36669410077. $\sqrt{2gR}$

36669410078. $\sqrt{4gR}$

36669410079. $\sqrt{\frac{gR}{2}}$

36669410080. $\sqrt{gR}$

Question Number : 36 Question Id : 3666943236 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 identical particles each of mass 'm' go round a circle of radius a under the action of their mutual gravitational attraction. The angular speed of each particle will be :

Options :

36669410081. $\sqrt{\frac{Gm}{2a^3}}$

36669410082. $\sqrt{\frac{Gm}{4a^3}}$

36669410083. $\sqrt{\frac{Gm}{8a^3}}$

36669410084. $\sqrt{\frac{Gm}{a^3}}$

Question Number : 36 Question Id : 3666943236 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

'm' द्रव्यमान वाले दो एकसमान कण, a त्रिज्या के वृत्त पर पारस्परिक गुरुत्वीय आकर्षण के अन्तर्गत घूमते हैं। प्रत्येक कण की कोणीय चाल होगी :

Options :

36669410081. $\sqrt{\frac{Gm}{2a^3}}$

36669410082. $\sqrt{\frac{Gm}{4a^3}}$

36669410083. $\sqrt{\frac{Gm}{8a^3}}$

36669410084. $\sqrt{\frac{Gm}{a^3}}$

Question Number : 37 Question Id : 3666943237 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 vector in $x-y$ plane makes an angle of 30° with y-axis. The magnitude of y-component of vector is $2\sqrt{3}$. The magnitude of x-component of the vector will be :

Options :

36669410085. 2

36669410086. $\sqrt{3}$

36669410087. $\frac{1}{\sqrt{3}}$

36669410088. 6

Question Number : 37 Question Id : 3666943237 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

$x-y$ तल में, एक सदिश y-अक्ष के साथ 30° का कोण बनाता है। सदिश के y-घटक का परिमाण $2\sqrt{3}$ है। सदिश के x -घटक का परिमाण होगा:

Options :

36669410085. 2

36669410086. $\sqrt{3}$

36669410087. $\frac{1}{\sqrt{3}}$

36669410088. 6

Question Number : 38 Question Id : 3666943238 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 position of a particle related to time is given by $x=\left(5t^2-4t+5\right)m$. The magnitude of velocity of the particle at $t=2s$ will be :

Options :

36669410089. $14\ \mathrm{ms^{-1}}$

36669410090. $16\ \mathrm{ms^{-1}}$

36669410091. $10\ \mathrm{ms^{-1}}$

36669410092. $06\ \mathrm{ms^{-1}}$

Question Number : 38 Question Id : 3666943238 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 कण की समय के साथ स्थिति $x=\left(5t^2-4t+5\right)m$ द्वारा दी गई है। समय $t=2s$ पर, कण के वेग का परिमाण होगा:

Options :

36669410089. $14\ ms^{-1}$

36669410090. $16\ ms^{-1}$

36669410091. $10\ ms^{-1}$

36669410092. $06\ ms^{-1}$

Question Number : 39 Question Id : 3666943239 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 speed of a wave produced in water is given by $v=\lambda^a g^b \rho^c$. Where λ, g and ρ are wavelength of wave, acceleration due to gravity and density of water respectively. The values of a, b and c respectively, are :

Options :

36669410093. $1, 1, 0$

36669410094. $\frac{1}{2}, 0, \frac{1}{2}$

36669410095. $\frac{1}{2}, \frac{1}{2}, 0$

36669410096. $1, -1, 0$

Question Number : 39 Question Id : 3666943239 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

पानी में उत्पन्न तरंग की चाल $v = \lambda^a g^b \rho^c$ द्वारा दी गई है, जहाँ λ, g एवं ρ क्रमशः तरंग का तरंगदैर्ध्य, गुरुत्वीय त्वरण एवं पानी का घनत्व हैं। a, b एवं c का मान क्रमशः है:

Options :

36669410093. $1, 1, 0$

36669410094. $\frac{1}{2}, 0, \frac{1}{2}$

36669410095. $\frac{1}{2}, \frac{1}{2}, 0$

36669410096. $1, -1, 0$

Question Number : 40 Question Id : 3666943240 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 position vector of a particle related to time t is given by

$\vec{r} = (10t\hat{i} + 15t^2\hat{j} + 7\hat{k})\,m$

The direction of net force experienced by the particle is :

Options :

36669410097. Positive x - axis

36669410098. Positive y - axis

36669410099. Positive z - axis

36669410100. In x - y plane

Question Number : 40 Question Id : 3666943240 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 कण का समय के साथ स्थिति सदिश निम्नवत हैं

$\vec{r} = (10t\hat{i} + 15t^2\hat{j} + 7\hat{k})\,m$,

कण पर आरोपित परिणामी बल की दिशा है :

Options :

36669410097. धनात्मक x - अक्ष

36669410098. धनात्मक y - अक्ष

36669410099. धनात्मक z - अक्ष

36669410100. x - y तल में

Question Number : 41 Question Id : 3666943241 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 field due to a short electric dipole at a large distance (r) from center of dipole on the equatorial plane varies with distance as :

Options :

36669410101. $\frac{1}{r}$

36669410102. $\frac{1}{r^2}$

36669410103. $\frac{1}{r^3}$

36669410104. r

Question Number : 41 Question Id : 3666943241 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 विद्युत द्विध्रुव के कारण, भूमध्यवर्ती तल में, द्विध्रुव के केन्द्र से बहुत दूर, दूरी (r) पर, विद्युत क्षेत्र दूरी के साथ निम्नवत परिवर्तित होगा :

Options :

36669410101. $\frac{1}{r}$

36669410102. $\frac{1}{r^2}$

36669410103. $\frac{1}{r^3}$

36669410104. r

Question Number : 42 Question Id : 3666943242 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 height of transmitting antenna is 180 m and the height of the receiving antenna is 245 m. The maximum distance between them for satisfactory communication in line of sight will be :

(given R = 6400 km)

Options :

36669410105. $48\ \text{km}$

36669410106. $56\ \text{km}$

36669410107. $96\ \text{km}$

36669410108. $104\ \mathrm{km}$

Question Number : 42 Question Id : 3666943242 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

प्रेसक ऐंटिना की ऊँचाई 180 m एवं ग्राही ऐंटिना की ऊँचाई 245 m है। संतोषजनक दृष्टिरेखीय संप्रेषण के लिए उनके बीच की अधिकतम दूरी होगी: (दिया है R = 6400 km):

Options :

36669410105. $48\ \mathrm{km}$

36669410106. $56\ \mathrm{km}$

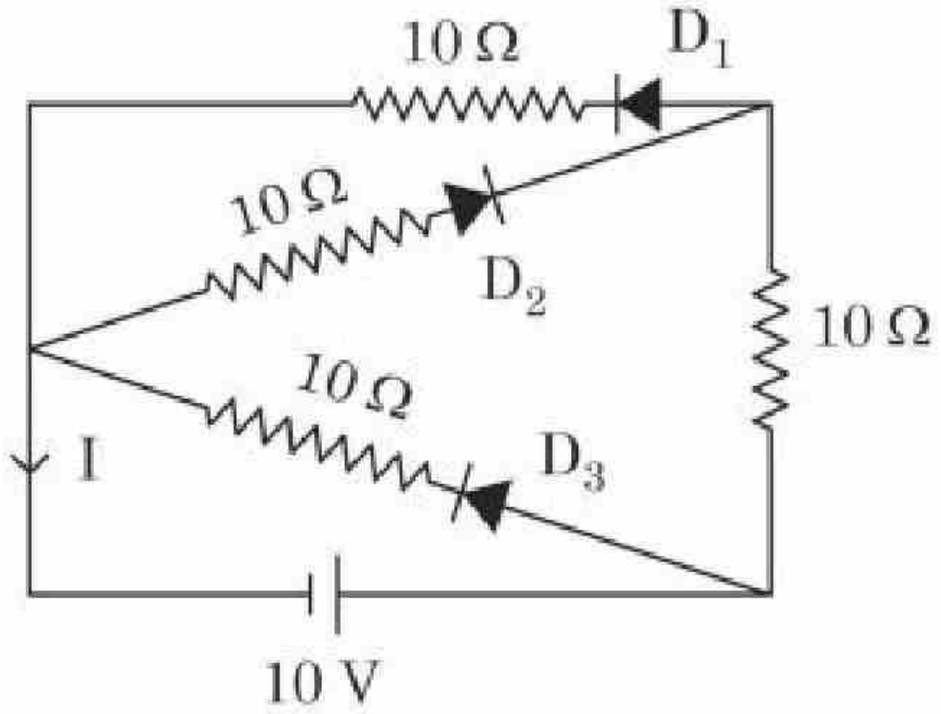
36669410107. $96\ \mathrm{km}$

36669410108. $104\ \mathrm{km}$

Question Number : 43 Question Id : 3666943243 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 current (I) through the battery will be



Options :

36669410109. 1.5 A

36669410110. 2.5 A

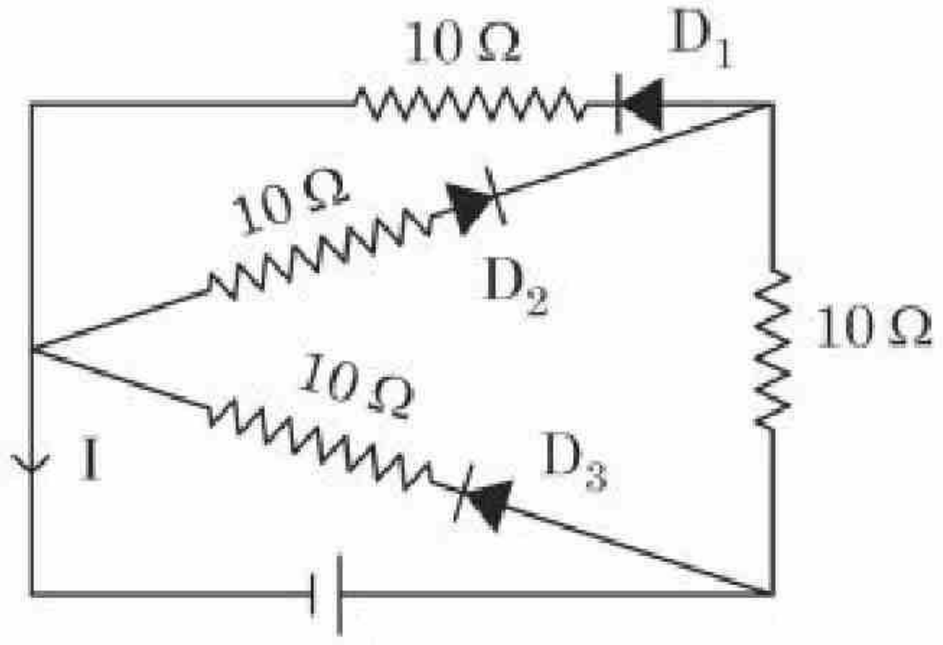
36669410111. 1A

36669410112. 2A

Question Number : 43 Question Id : 3666943243 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

दिए गए परिपथ में, बैट्री वाली शाखा में प्रवाहित धारा (I) का मान होगा:



Options :

36669410109. 1.5 A

36669410110. 2.5 A

36669410111. 1A

36669410112. 2A

Question Number : 44 Question Id : 3666943244 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 half-life of a radioactive nucleus is 5 years. The fraction of the original sample that would decay in 15 years is:

Options :

36669410113. $\frac{1}{4}$

36669410113. $\frac{1}{4}$

36669410114. $\frac{1}{8}$

36669410115. $\frac{3}{4}$

36669410116. $\frac{7}{8}$

Question Number : 44 Question Id : 3666943244 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 रेडियोएक्टिव नाभिक की अर्द्धायु 5 वर्ष है। वास्तविक नमूने का वह भाग जो 15 वर्षों में क्षय हो जाएगा, वह है:

Options :

36669410113. $\frac{1}{4}$

36669410114. $\frac{1}{8}$

36669410115. $\frac{3}{4}$

36669410116. $\frac{7}{8}$

Question Number : 45 Question Id : 3666943245 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 having kinetic energy E is λ. If the kinetic energy of electron becomes $\frac{E}{4}$, then its de-Broglie wavelength will be :

Options :

36669410117. $\frac{\lambda}{2}$

36669410118. 2λ

36669410119. $\frac{\lambda}{\sqrt{2}}$

36669410120. $\sqrt{2}\lambda$

Question Number : 45 Question Id : 3666943245 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

E गतिज ऊर्जा वाले इलेक्ट्रॉन की डी-ब्रॉगली तरंगदैर्ध्य λ है। यदि इलेक्ट्रॉन की गतिज ऊर्जा $\frac{E}{4}$ हो जाए, तो इसकी डी-ब्रॉगली तरंगदैर्ध्य होगी:

Options :

36669410117. $\frac{\lambda}{2}$

36669410118. 2λ

36669410119. $\frac{\lambda}{\sqrt{2}}$

36669410120. $\sqrt{2}\lambda$

Question Number : 46 Question Id : 3666943246 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 single slit of width a is illuminated by a monochromatic light of wavelength 600 nm. The value of 'a' for which first minimum appears at $\theta = 30^{\circ}$ on the screen will be :

Options :

36669410121. $0.6\ \mu\text{m}$

36669410122. $1.2\ \mu\text{m}$

36669410123. $1.8\ \mu\text{m}$

36669410124. $3\ \mu\text{m}$

Question Number : 46 Question Id : 3666943246 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

600 nm तरंगदैर्ध्य वाले किसी एकलवर्णी प्रकाश से a चौडाई वाली किसी एकल झिर्री को प्रदीप्त किया जाता है। 'a' का वह मान जिसके लिए पहला निम्नि $\theta = 30^{\circ}$ पर प्राप्त होता है, वह है :

Options :

36669410121. $0.6\ \mu\text{m}$

36669410122. $1.2\ \mu\text{m}$

36669410123. $1.8\ \mu\text{m}$

36669410124. $3\ \mu\text{m}$

Question Number : 47 Question Id : 3666943247 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 of Electromagnetic waves with corresponding wavelength range :

	List I		List II
(A)	Microwave	(I)	400 nm to 1 nm
(B)	Ultraviolet	(II)	1 nm to 10^{-3} nm
(C)	X-Ray	(III)	1 mm to 700 nm
(D)	Infra-red	(IV)	0.1 m to 1 mm

Choose the correct answer from the options given below:

Options :

36669410125. (A)-(I), (B)-(IV), (C)-(II), (D)-(III)

36669410126. (A)-(IV), (B)-(II), (C)-(I), (D)-(III)

36669410127. (A)-(IV), (B)-(I), (C)-(II), (D)-(III)

36669410128. (A)-(IV), (B)-(I), (C)-(III), (D)-(II)

Question Number : 47 Question Id : 3666943247 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। में दी गई विद्युतचुम्बकीय तरंगों का मिलान सूची॥ में दी गई उनकी संगत तरंगदैर्ध्यों से कीजिए :

सूची।		सूची॥	
(A)	सूक्ष्मतंरग	(I)	400 nm to 1 nm
(B)	पराबैगनी	(II)	1 nm to 10^{-3} nm
(C)	X-किरणें	(III)	1 mm to 700 nm
(D)	अवरक्त	(IV)	0.1 m to 1 mm

नीचे दिए गए विकल्पों में से सही उत्तर चुनें:

Options :

36669410125. (A)-(I), (B)-(IV), (C)-(II), (D)-(III)

36669410126. (A)-(IV), (B)-(II), (C)-(I), (D)-(III)

36669410127. (A)-(IV), (B)-(I), (C)-(II), (D)-(III)

36669410128. (A)-(IV), (B)-(I), (C)-(III), (D)-(II)

Question Number : 48 Question Id : 3666943248 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 12 V battery connected to a coil of resistance 6 Ω through a switch, drives a constant current in the circuit. The switch is opened in 1 ms. The emf induced across the coil is 20 V. The inductance of the coil is :

Options :

36669410129. $5\ \mathrm{mH}$

36669410130. $8\ \mathrm{mH}$

36669410131. $10\ \mathrm{mH}$

36669410132. $12\ \mathrm{mH}$

Question Number : 48 Question Id : 3666943248 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 12 V वाली बैट्री को 6 Ω प्रतिरोध वाली कुंडली से एक कुँजी के द्वारा जोडा जाता है, जिससे परिपथ में नियत धारा प्रवाहित होती है। 1 ms समय में कुँजी को खोल दिया जाता है। कुंडली में प्रेरित विद्युत वाहक बल का मान 20 V है, तो कुंडली का प्रेरकत्व है:

Options :

36669410129. $5\ \mathrm{mH}$

36669410130. $8\ \mathrm{mH}$

36669410131. $10\ \mathrm{mH}$

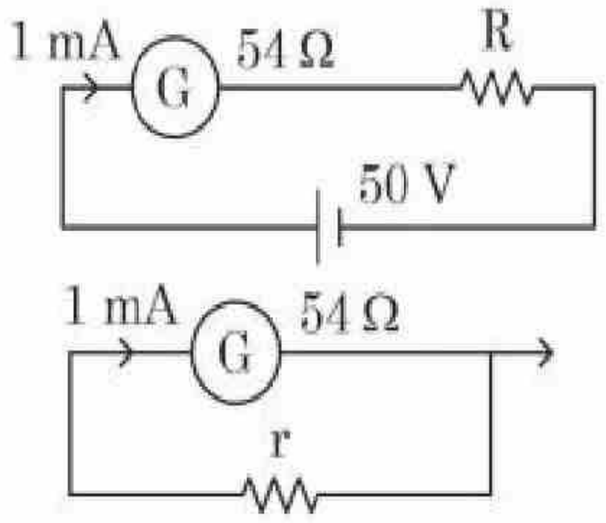
36669410132. $12\ \mathrm{mH}$

Question Number : 49 Question Id : 3666943249 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 designing a voltmeter of range 50 V and an ammeter of range 10 mA using a galvanometer which has a coil of resistance 54 Ω showing a full scale deflection for 1 mA as in figure.



(A) for voltmeter $R \approx 50\,\text{k}\Omega$

(B) for ammeter r $\approx 0.2\,\Omega$

(C) for ammeter r = $6\,\Omega$

(D) for voltmeter $R \approx 5\,\text{k}\Omega$

(E) for voltmeter $R \approx 500\ \Omega$

Choose the correct answer from the options given below:

Options :

36669410133. (A) and (C)

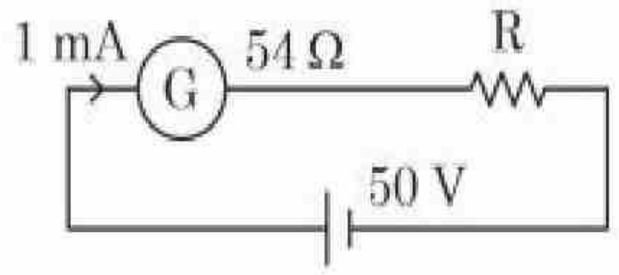
36669410134. (A) and (B)

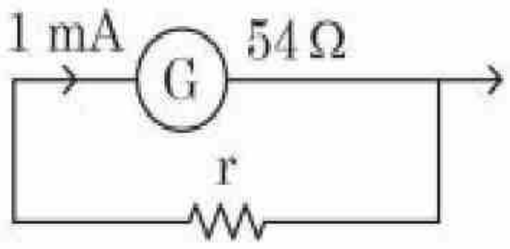
36669410135. (C) and (D)

36669410136. (C) and (E)

Question Number : 49 Question Id : 3666943249 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

प्रदर्शित चित्र के अनुसार धारामापी का प्रयोग करके जिसकी कुंडली का प्रतिरोध 54 Ω है एवं 1 mA पर पूर्ण मापक विक्षेप प्रदर्शित करता है, 50 V तक माप सकने वाला विभवमापी एवं 10 mA तक माप सकने वाला अमीटर बनाने के लिए:





(A) विभवमापी के लिए $R \approx 50\,\mathrm{k}\Omega$

(B) अमीटर के लिए $\mathrm{r} \approx 0.2\Omega$

(C) विभवमापी के लिए $\mathrm{r} = 6\Omega$

(D) विभवमापी के लिए $R \approx 5\,\mathrm{k}\,\Omega$

(E) विभवमापी के लिए $R \approx 500\ \Omega$

नीचे दिए गए विकल्पों में से सही उत्तर चुनें:

Options :

36669410133. (A) एवं (C)

36669410134. (A) एवं (B)

36669410135. (C) एवं (D)

36669410136. (C) एवं (E)

Question Number : 50 Question Id : 3666943250 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 equivalent resistance of resistors in a series combination is smaller than least resistance used in the combination.

Statement II : The resistivity of the material is independent of temperature.

In the light of the above statements, choose the correct answer from the options given below :

Options :

36669410137. Both Statement I and Statement II are true

36669410138. Both Statement I and Statement II are false

36669410139. Statement I is true but Statement II is false

36669410140. Statement I is false but Statement II is true

Question Number : 50 Question Id : 3666943250 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 हैं:

कथन I : श्रेणी क्रम में संयोजित प्रतिरोधों का तुल्य प्रतिरोध, संयोजन में लगे न्यूनतम प्रतिरोध से छोटा होता है।

कथन II : पदार्थ की प्रतिरोधकता तापमान पर निर्भर नहीं करती है।

उपर्युक्त कथनों के संदर्भ में, नीचे दिए गए विकल्पों में से सर्वाधिक उपयुक्त उत्तर चुनें:

Options :

कथन। एवं कथन॥ दोनों सही हैं।

36669410138. कथन। एवं कथन॥ दोनों गलत हैं।

36669410139. कथन। सही है परन्तु कथन॥ गलत है।

36669410140. कथन। गलत है परन्तु कथन॥ सही है।

Physics Section B

Section Id :	366694181
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 :	366694181
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 51 Question Id : 3666943251 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

The fundamental frequency of vibration of a string stretched between two rigid support is 50 Hz. The mass of the string is 18 g and its linear mass density is 20 g/m. The speed of the transverse waves so produced in the string is _____ ms^{-1}

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 51 Question Id : 3666943251 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

दो दृढ़ आधारों के बीच किसी एक रस्सी के कम्पनों की मूल आवृत्ति (Fundamental Frequency) 50 Hz है।
रस्सी का भार 18 g एवं इसका रेखीय द्रव्यमान घनत्व 20 g/m है।
रस्सी में उत्पन्न अनुप्रस्थ तरंग की चाल _____ ms^{-1} है।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 52 Question Id : 3666943252 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

There is an air bubble of radius 1.0 mm in a liquid of surface tension 0.075 Nm^{-1} and density 1000 kg m^{-3} at a depth of 10 cm below the free surface. The amount by which the pressure inside the bubble is greater than the atmospheric pressure is _____ Pa ($g = 10\ ms^{-2}$)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 52 Question Id : 3666943252 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

0.075 Nm^{-1} पृष्ठ तनाव एवं 1000 kg m^{-3} घनत्व वाले किसी द्रव में मुक्त तल से 10 cm की गहराई पर एक 1.0 mm त्रिज्या वाला एक बुलबुला है। जिस मान से बुलबुले के अंदर का दाब, वातावरणीय दाब से ज्यादा है, वह मान _____ Pa है ($g = 10\ ms^{-2}$)।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 53 Question Id : 3666943253 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

A solid sphere and a solid cylinder of same mass and radius are rolling on a horizontal surface without slipping. The ratio of their radius of gyrations respectively ($k_{sph} : k_{cyl}$) is $2 : \sqrt{x}$. The value of x is _____

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 53 Question Id : 3666943253 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

समान द्रव्यमान एवं त्रिज्या वाले, एक ठोस गोला एवं एक ठोस बेलन, किसी क्षैतिज तल पर बिना फिसले लुढ़क रहे हैं। उनके घूर्णन की त्रिज्याओं का अनुपात $(k_{sph} : k_{cyl})$ $2:\sqrt{x}$ है। x का मान _____ है।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Possible Answers :

10

Question Number : 54 Question Id : 3666943254 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

A block of mass 10 kg is moving along x-axis under the action of force $F = 5x\ N$. The work done by the force in moving the block from $x = 2m$ to $4m$ will be _____ J.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 54 Question Id : 3666943254 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

10 kg द्रव्यमान वाले एक गुटके पर $F = 5x\ N$ बल x अक्ष के अनुदिश क्रियान्वित है। $x = 2m$ से $4m$ तक गुटके को चलाने के लिए, बल द्वारा किया गया कार्य _____ J है।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

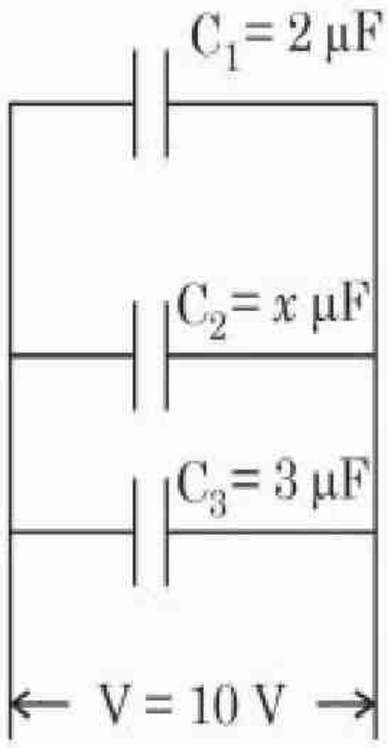
10

Question Number : 55 Question Id : 3666943255 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

In the given figure the total charge stored in the combination of capacitors is 100 μC. 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 :

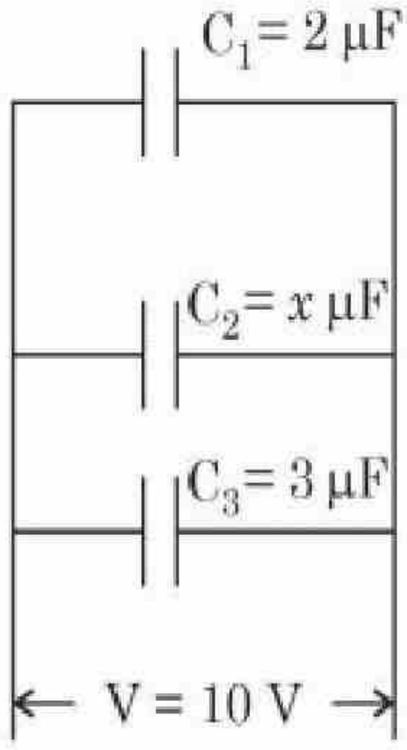
10

Question Number : 55 Question Id : 3666943255 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

दिए गए चित्र में, संधारित्रों के संयोजन में संचित तुल्य आवेश 100 μC 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 :

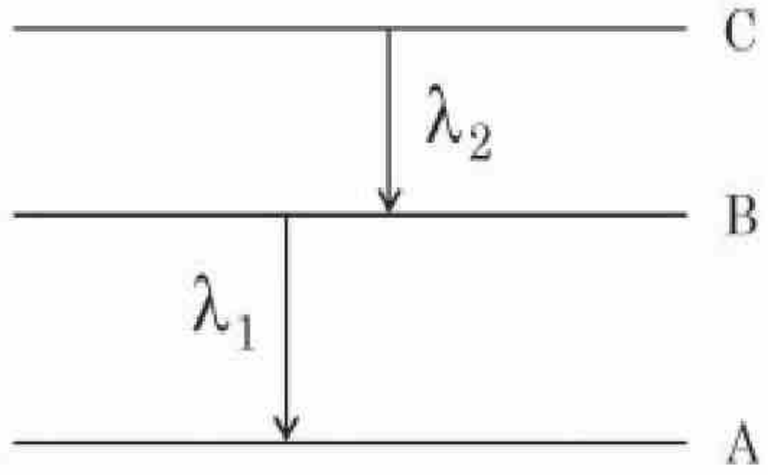
10

Question Number : 56 Question Id : 3666943256 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

As per given figure A, B and C are the first, second and third excited energy levels of hydrogen atom respectively. If the ratio of the two wavelengths $\left(i.e.\ \frac{\lambda_1}{\lambda_2}\right)$ is $\frac{7}{4n}$, then the value of n will be _____.



Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

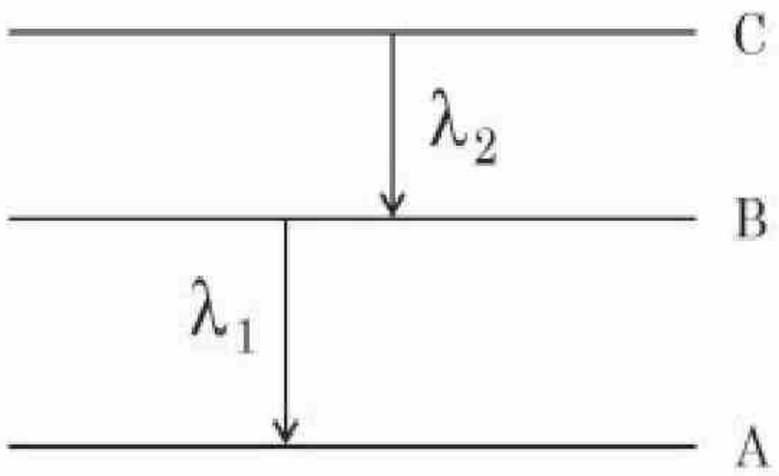
10

Question Number : 56 Question Id : 3666943256 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

दिए गए चित्रानुसार *A*, *B* एवं *C*, हाइड्रोजन परमाणु के क्रमशः प्रथम, द्वितीय एवं तृतीय उत्तेजित ऊर्जा स्तर हैं। दो तरंगदैर्ध्यों का अनुपात $\left(i.e.\ \frac{\lambda_1}{\lambda_2}\right)$ यदि $\frac{7}{4n}$ हो, तब n का मान होगा _____ ।



Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 57 Question Id : 3666943257 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

The refractive index of a transparent liquid filled in an equilateral hollow prism is $\sqrt{2}$. The angle of minimum deviation for the liquid will be _____°.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 57 Question Id : 3666943257 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

एक समबाहु खोखले प्रिज्म में $\sqrt{2}$ अपवर्तनांक वाला कोई पारदर्शी द्रव भरा हुआ है। द्रव के लिए न्यूनतम विचलन कोण _____° (डिग्री) होगा।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 58 Question Id : 3666943258 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

A 20 cm long metallic rod is rotated with 210 rpm about an axis normal to the rod passing through its one end. The other end of the rod is in contact with a circular metallic ring. A constant and uniform magnetic field 0.2T parallel to the axis exists everywhere. The emf developed between the centre and the ring is _____ mV.

Take $\pi = \frac{22}{7}$

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 58 Question Id : 3666943258 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

20 cm लम्बी एक धात्विक छड, 210 rpm की दर से किसी अक्ष के परितः घूम रही है, जो कि छड के लम्बवत है एवं इसके एक सिरे से गुजर रही है। छड का दूसरा सिरा एक वृत्ताकार धात्विक छल्ले के सम्पर्क में है। कोई 0.2T का एकसमान एवं स्थायी चुम्बकीय क्षेत्र, अक्ष के समान्तर सर्वत्र विद्यमान है। केन्द्र एवं छल्ले के बीच _____ mV विद्युत वाहक बल उत्पन्न होगा।

$\left(\pi = \frac{22}{7}\right)$

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 59 Question Id : 3666943259 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

An election in a hydrogen atom revolves around its nucleus with a speed of 6.76×10^6 ms^{-1} in an orbit of radius 0.52 A^o. The magnetic field produced at the nucleus of the hydrogen atom is _____ T.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 59 Question Id : 3666943259 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

हाइड्रोजन परमाणु में, एक इलेक्ट्रॉन नाभिक के चारो तरफ 0.52 A° त्रिज्या वाली कक्षा में 6.76×10^6 ms^{-1} की चाल से घूमता है। हाइड्रोजन परमाणु के नाभिक पर उत्पदन्न चुम्बकीय क्षेत्र का मान _____ T है।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

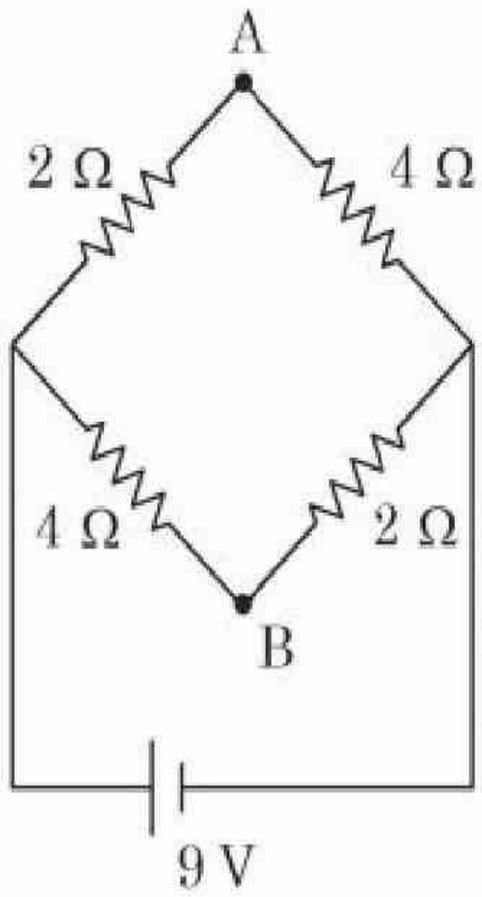
10

Question Number : 60 Question Id : 3666943260 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

A network of four resistances is connected to 9 V battery, as shown in figure. The magnitude of voltage difference between the points A and B is _____ V.



Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

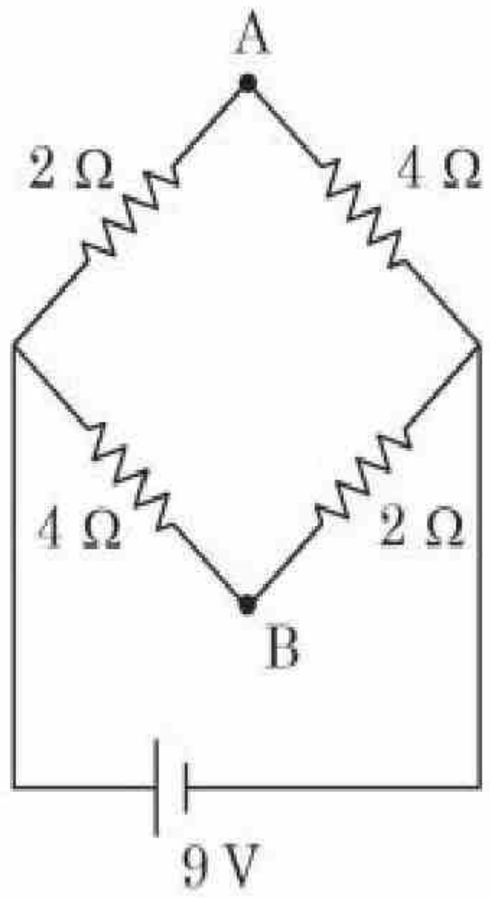
10

Question Number : 60 Question Id : 3666943260 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

चार प्रतिरोधों के नेटवर्क से 9V की बैट्री चित्रानुसार जुडी हुई है। बिन्दु A एवं B के बीच विभवान्तर _____ V है।



Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Chemistry Section A

Section Id : 366694182

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 :	366694182
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 61 Question Id : 3666943261 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 expressions is correct in case of a CsCl unit cell (edge length 'a')?

Options :

36669410151. $r_{Cs^+} + r_{Cl^-} = a$

36669410152. $r_{Cs^+} + r_{Cl^-} = \frac{a}{\sqrt{2}}$

36669410153. $r_{Cs^+} + r_{Cl^-} = \frac{\sqrt{3}}{2}a$

36669410154 $r_{Cs^+} + r_{Cl^-} = \frac{a}{2}$

Question Number : 61 Question Id : 3666943261 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

निम्न में से कौन सा समीकरण CsCl एकक कोष्ठिका (कोर लंबाई 'a') के लिए सही है?

Options :

36669410151. $r_{Cs^+} + r_{Cl^-} = a$

36669410152. $r_{Cs^+} + r_{Cl^-} = \frac{a}{\sqrt{2}}$

36669410153. $r_{Cs^+} + r_{Cl^-} = \frac{\sqrt{3}}{2}a$

36669410154. $r_{Cs^+} + r_{Cl^-} = \frac{a}{2}$

Question Number : 62 Question Id : 3666943262 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 : According to Bohr's model of hydrogen atom, the angular momentum of an electron in a given stationary state is quantised.

Statement II : The concept of electron in Bohr's orbit, violates the Heisenberg uncertainty principle.

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

Options :

36669410155. Both Statement I and Statement II are correct

36669410156. Both Statement I and Statement II are incorrect

36669410157. Statement I is correct but Statement II is incorrect

36669410158. Statement I is incorrect but Statement II is correct

Question Number : 62 Question Id : 3666943262 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 गए हैं:

कथन I. : हाइड्रोजन परमाणु के बोर मॉडल के अनुसार, किसी स्थायी कक्षा में इलेक्ट्रॉन का कोणीय संवेग क्वांटीकृत है ।

कथन II. : बोर कक्षा में इलेक्ट्रॉन की संकल्पना, हाइजेनबर्ग के अनिश्चितता सिद्धांत का पालन नहीं करता है ।

उपर्युक्त कथनों के संदर्भ में, नीचे दिए गए विकल्पों में से सर्वाधिक उपयुक्त उत्तर चुनें:

Options :

36669410155. कथन I एवं कथन II दोनों सही हैं।

36669410156. कथन I एवं कथन II दोनों गलत हैं।

36669410157. कथन I सही है परन्तु कथन II गलत है।

36669410158. कथन । गलत है परन्तु कथन ॥ सही है।

Question Number : 63 Question Id : 3666943263 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 following statements:

(A) NF_3 molecule has a trigonal planar structure.

(B) Bond length of N_2 is shorter than O_2.

(C) Isoelectronic molecules or ions have identical bond order.

(D) Dipole moment of H_2S is higher than that of water molecule.

Choose the correct answer from the options given below:

Options :

36669410159. (A) and (B) are correct

36669410160. (B) and (C) are correct

36669410161. (C) and (D) are correct

36669410162. (A) and (D) are correct

Question Number : 63 Question Id : 3666943263 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

निम्न कथनों पर विचार करें:

(A) NF_3 अणु की त्रिकोणीय समतलीय संरचना है।

(B) N_2 की आबन्ध लम्बाई, O_2 की तुलना में छोटी है।

(C) समइलेक्ट्रॉनिक अणु या आयनों की आबन्ध कोटि एक समान होती है।

(D) जल के अणु की तुलना में H_2S का द्विध्रुव आघूर्ण अधिक होता है।

नीचे दिए गए विकल्पों में से सही उत्तर चुनें:

Options :

36669410159. (A) एवं (B) सही हैं

36669410160. (B) एवं (C) सही हैं

36669410161. (C) एवं (D) सही हैं

36669410162. (A) एवं (D) सही हैं

Question Number : 64 Question Id : 3666943264 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 statement(s) is/are correct?

(A) The pH of 1×10^{-8} M HCl solution is 8.

(B) The conjugate base of $H_2PO_4^-$ is HPO_4^{2-}.

(C) K_w increases with increase in temperature.

(D) When a solution of a weak monoprotic acid is titrated against a strong base at half neutralisation point, $pH = \frac{1}{2} pK_a$.

Choose the correct answer from the options given below:

Options :

(A), (B), (C)

36669410164. (B), (C), (D)

36669410165. (B), (C)

36669410166. (A), (D)

Question Number : 64 Question Id : 3666943264 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

निम्न में से कौन सा/से कथन सही है/हैं?

(A) 1×10^{-8} M HCl विलयन का pH 8 है।

(B) $H_2PO_4^-$ का संयुग्मी क्षार HPO_4^{2-} है।

(C) K_w का मान तापमान वृद्धि के साथ बढ़ता है।

(D) जब एक दुर्बल मोनोप्रोटिक अम्ल के विलयन को एक प्रबल क्षार के साथ अनुमापित किया जाता है तो अर्ध उदासीनीकरण बिन्दु पर $pH = \frac{1}{2} pK_a$.

नीचे दिए गए विकल्पों में से सही उत्तर चुनें:

Options :

36669410163. (A), (B), (C)

36669410164. (B), (C), (D)

36669410165. (B), (C)

36669410166. (A), (D)

Question Number : 65 Question Id : 3666943265 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 one of the following is not an example of calcination?

Options :

36669410167. $Fe_2O_3 \cdot xH_2O \xrightarrow{\Delta} Fe_2O_3 + xH_2O$

36669410168. $CaCO_3 \xrightarrow{\Delta} CaO + CO_2$

36669410169. $CaCO_3 \cdot MgCO_3 \xrightarrow{\Delta} CaO + MgO + 2CO_2$

36669410170. $2PbS + 3O_2 \xrightarrow{\Delta} 2PbO + 2SO_2$

Question Number : 65 Question Id : 3666943265 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

निम्न में से कौन निस्तापन का एक उदाहरण नहीं है?

Options :

36669410167. $Fe_2O_3 \cdot xH_2O \xrightarrow{\Delta} Fe_2O_3 + xH_2O$

36669410168. $CaCO_3 \xrightarrow{\Delta} CaO + CO_2$

36669410169. $CaCO_3 \cdot MgCO_3 \xrightarrow{\Delta} CaO + MgO + 2CO_2$

36669410170. $2PbS + 3O_2 \xrightarrow{\Delta} 2PbO + 2SO_2$

Question Number : 66 Question Id : 3666943266 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

During water-gas shift reaction

Options :

36669410171. carbon is oxidized to carbon monoxide.

36669410172. carbon monoxide is oxidized to carbon dioxide.

36669410173. carbon dioxide is reduced to carbon monoxide.

36669410174. water is evaporated in presence of catalyst.

Question Number : 66 Question Id : 3666943266 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

अंगार गैस सृति अभिक्रिया (water-gas shift reaction) के दौरान –

Options :

36669410171. कार्बन का कार्बन मोनोऑक्साइड में ऑक्सीकरण होता है।

36669410172. कार्बन मोनोऑक्साइड का कार्बन डाइऑक्साइड में ऑक्सीकरण होता है।

36669410173. कार्बन डाइऑक्साइड का कार्बन मोनोऑक्साइड में अपचयन होता है।

36669410174. उत्प्रेरक की उपस्थिति में जल का वाष्पन होता है।

Question Number : 67 Question Id : 3666943267 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) : $BeCl_2$ and $MgCl_2$ produce characteristic flame

Reason (R) : The excitation energy is high in $BeCl_2$ and $MgCl_2$

In the light of the above statements, choose the correct answer from the options given below :

Options :

36669410175. Both (A) and (R) are true and (R) is the correct explanation of (A)

36669410176. Both (A) and (R) are true but (R) is NOT the correct explanation of (A)

36669410177. (A) is true but (R) is false

(A) is false but (R) is true

Question Number : 67 Question Id : 3666943267 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) एवं दूसरे को कारण (R) कहा गया है।

अभिकथन (A) : $BeCl_2$ एवं $MgCl_2$ लाक्षणिक ज्वाला उत्पन्न करते हैं।

कारण (R) : $BeCl_2$ एवं $MgCl_2$ में उत्तेजना हेतु उर्जा का मान अधिक है।

उपर्युक्त कथनों के प्रकाश में, नीचे दिए गए विकल्पों में से सही उत्तर चुनें:

Options :

36669410175. (A) एवं (R) दोनों सही हैं तथा (A) की सही व्याख्या (R) है

36669410176. (A) एवं (R) दोनों सही हैं तथा (A) की सही व्याख्या (R) नहीं है

36669410177. (A) सही है परन्तु (R) गलत है

36669410178. (A) गलत है परन्तु (R) सही है

Question Number : 68 Question Id : 3666943268 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 a good quality cement, the ratio of silica to alumina is found to be

Options :

36669410179. 1.5

36669410180. 3

36669410181. 4.5

36669410182. 2

Question Number : 68 Question Id : 3666943268 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 अच्छी गुणवत्ता वाले सीमेंट के लिए, सिलिका एवं एलुमिना का अनुपात पाया गया है:

Options :

36669410179. 1.5

36669410180. 3

36669410181. 4.5

36669410182. 2

Question Number : 69 Question Id : 3666943269 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 number of $P-O-P$ bonds in $H_4P_2O_7$, $(HPO_3)_3$ and P_4O_{10} are respectively

Options :

36669410183. $0, 3, 4$

36669410184. $0, 3, 6$

36669410185. $1, 2, 4$

36669410186. $1, 3, 6$

Question Number : 69 Question Id : 3666943269 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

$H_4P_2O_7$, $(HPO_3)_3$ एवं P_4O_{10} में P – O – P आबन्धों की संख्या है, क्रमशः -

Options :

36669410183. $0, 3, 4$

36669410184. $0, 3, 6$

36669410185. $1, 2, 4$

36669410186. $1, 3, 6$

Question Number : 70 Question Id : 3666943270 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum

Correct Marks : 4 Wrong Marks : 1

The complex with highest magnitude of crystal field splitting energy (Δ_0) is

Options :

36669410187. $[Ti(OH_2)_6]^{3+}$

36669410188. $[Cr(OH_2)_6]^{3+}$

36669410189. $[Mn(OH_2)_6]^{3+}$

36669410190. $[Fe(OH_2)_6]^{3+}$

Question Number : 70 Question Id : 3666943270 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

अधिकतम क्रिस्टल क्षेत्र विपाटन उर्जा (Δ_0) वाला संकुल है:

Options :

36669410187. $[Ti(OH_2)_6]^{3+}$

36669410188. $[Cr(OH_2)_6]^{3+}$

36669410189. $[Mn(OH_2)_6]^{3+}$

36669410190. $[Fe(OH_2)_6]^{3+}$

Question Number : 71 Question Id : 3666943271 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 possibility of photochemical smog formation will be minimum at

Options :

36669410191. New-Delhi in August (Summer)

36669410192. Srinagar, Jammu and Kashmir in January

36669410193. Mumbai in May

36669410194. Kolkata in October

Question Number : 71 Question Id : 3666943271 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

प्रकाश रासायनिक धूम-कोहरे के निर्माण की संभावना न्यूनतम होगी –

Options :

36669410191. अगस्त (ग्रीष्म) – नई दिल्ली में

36669410192. जनवरी – श्रीनगर, जम्मू और कश्मीर में

36669410193

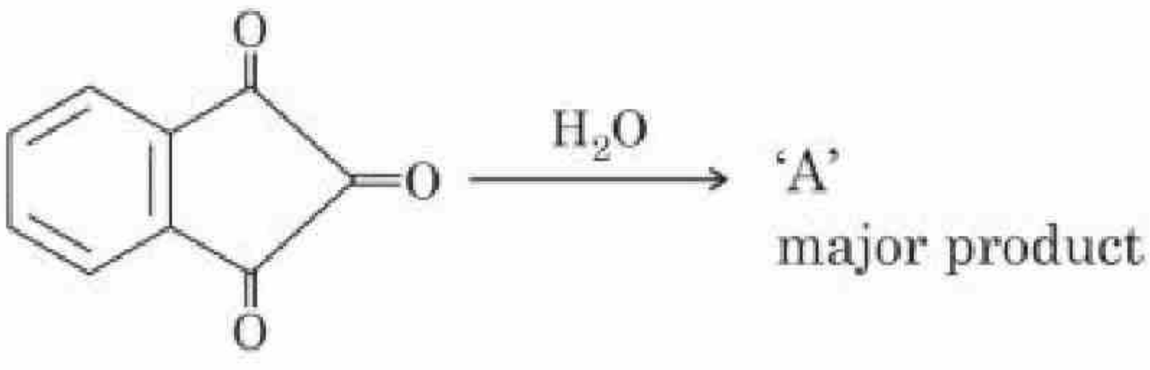
मई – मुम्बई में

अक्टूबर – कलकत्ता में

36669410194.

Question Number : 72 Question Id : 3666943272 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

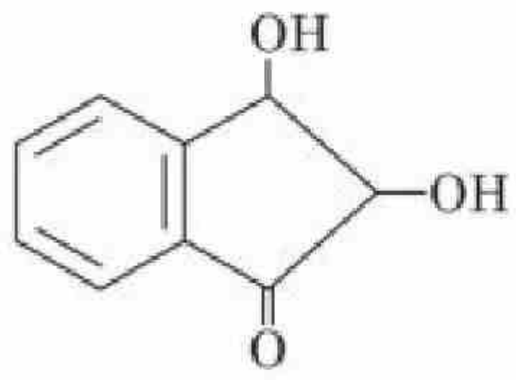
Correct Marks : 4 Wrong Marks : 1



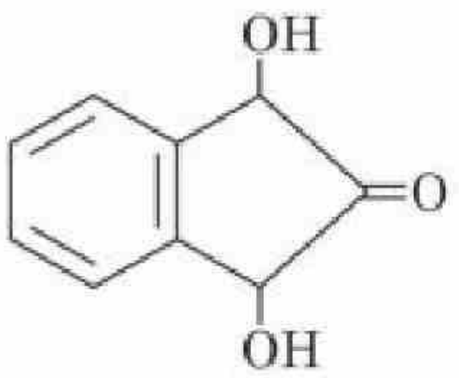
'A' formed in the above reaction is

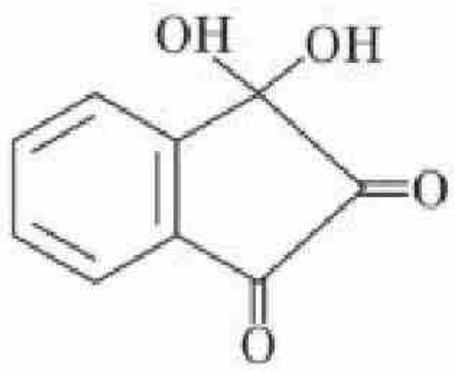
Options :

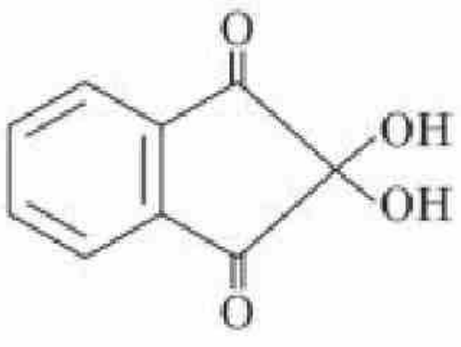
36669410195.



36669410196.



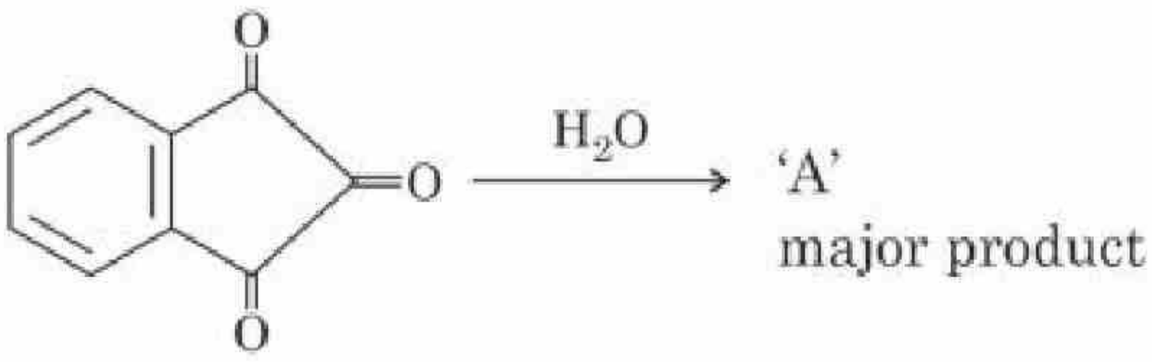




36669410198.

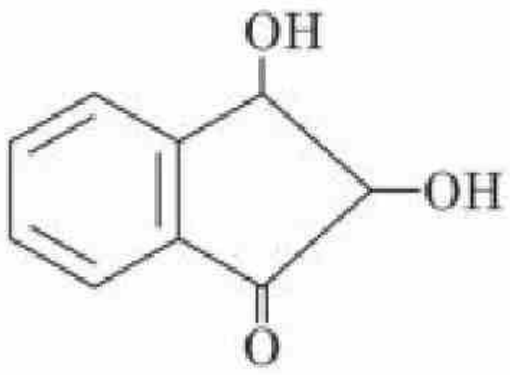
Question Number : 72 Question Id : 3666943272 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

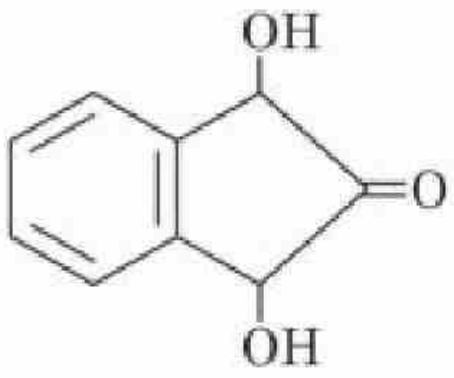


उपर्युक्त अभिक्रिया में निर्मित 'A' है:

Options :

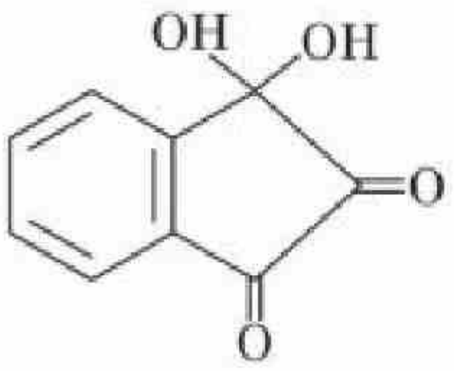


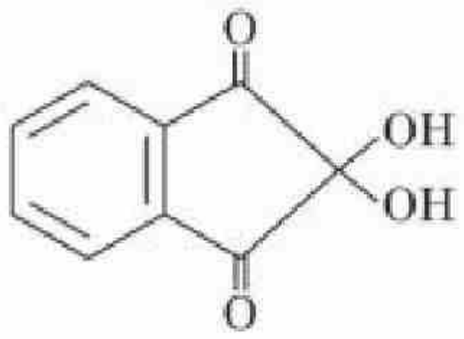
36669410195.



36669410196.

36669410197.



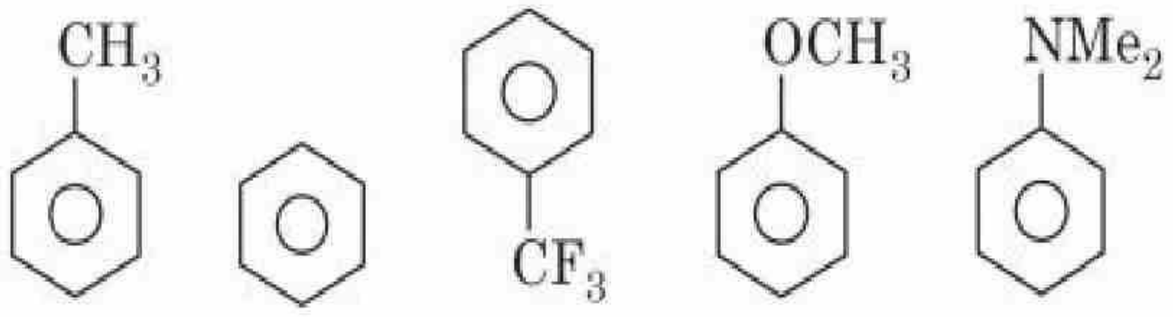


36669410198.

Question Number : 73 Question Id : 3666943273 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

Decreasing order of reactivity towards electrophilic substitution for the following compounds is :



(a) (b) (c) (d) (e)

Options :

36669410199. a > d > e > b > c

36669410200. e > d > a > b > c

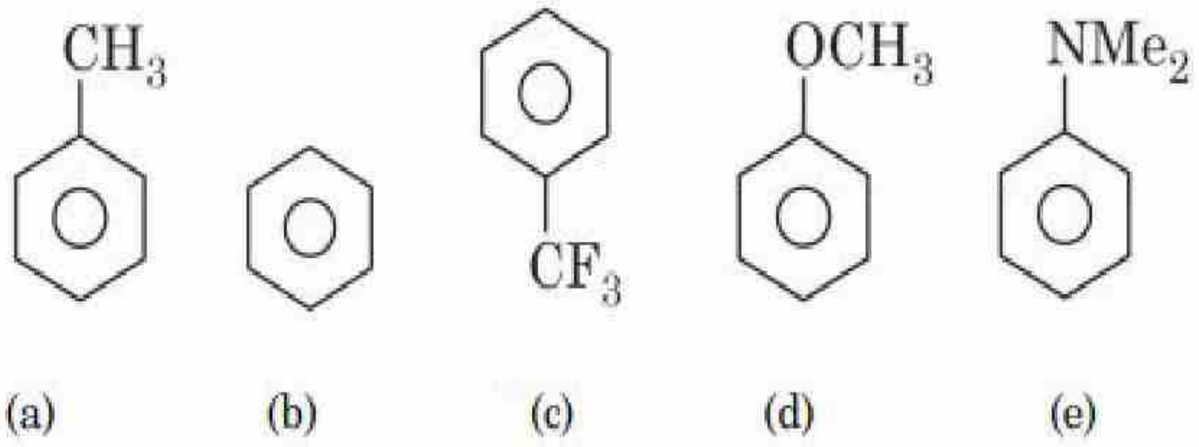
36669410201. d > a > e > c > b

36669410202. c > b > a > d > e

Question Number : 73 Question Id : 3666943273 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

निम्न यौगिकों के लिए, इलेक्ट्रॉन स्नेही प्रतिस्थापन अभिक्रियाओं के प्रति, अभिक्रियाशीलता का घटता क्रम है:



Options :

36669410199. $a > d > e > b > c$

36669410200. $e > d > a > b > c$

36669410201. $d > a > e > c > b$

36669410202. $c > b > a > d > e$

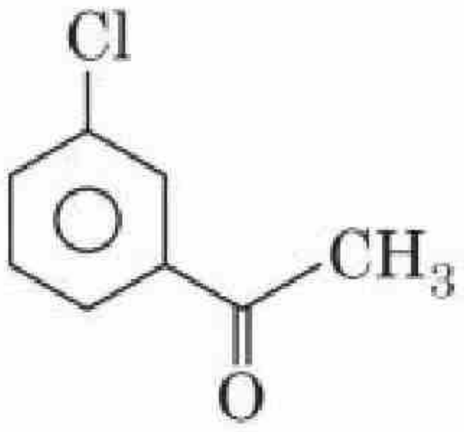
Question Number : 74 Question Id : 3666943274 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

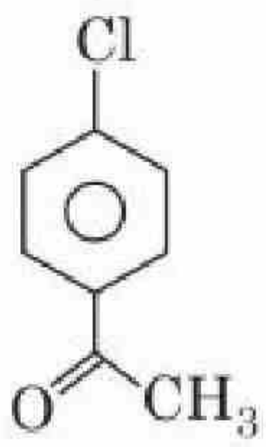
Correct Marks : 4 Wrong Marks : 1

The major product formed in the Friedel-Craft acylation of chlorobenzene is

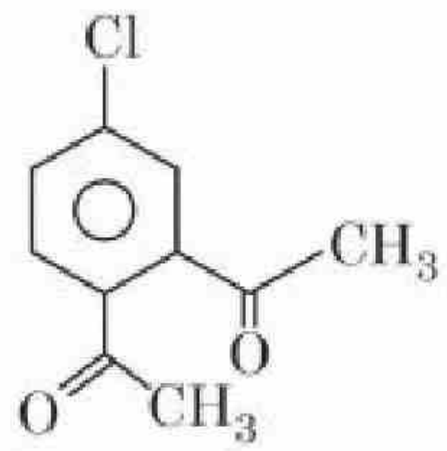
Options :

36669410203.

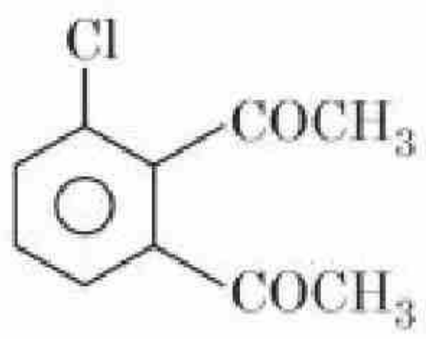




36669410204.



36669410205.



36669410206.

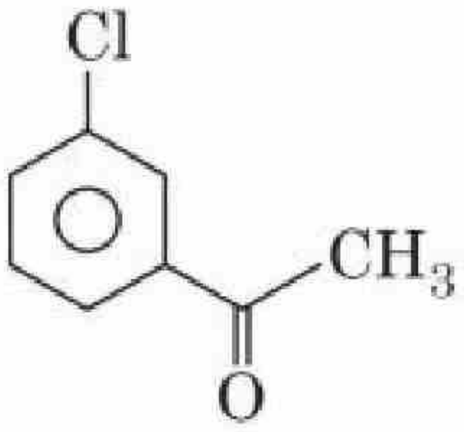
Question Number : 74 Question Id : 3666943274 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

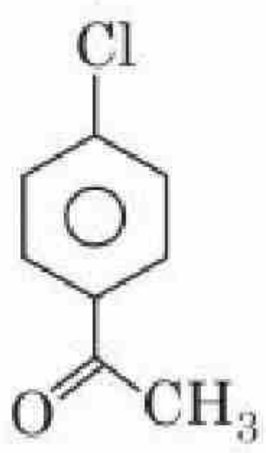
Correct Marks : 4 Wrong Marks : 1

क्लोरोबेन्जीन के फ्रीडेल-क्राफ्ट्स एसीलेशन (acylation) में मुख्य उत्पाद है:

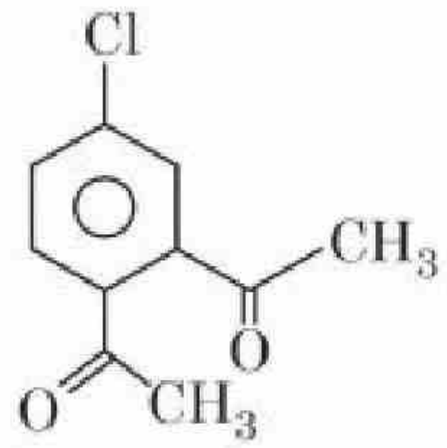
Options :

36669410203.

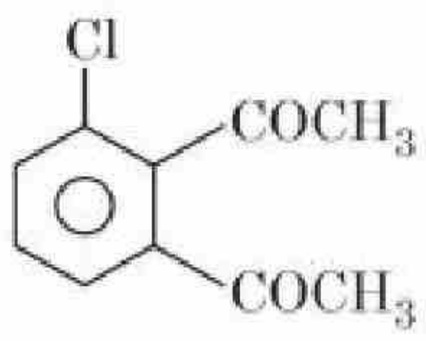




36669410204.



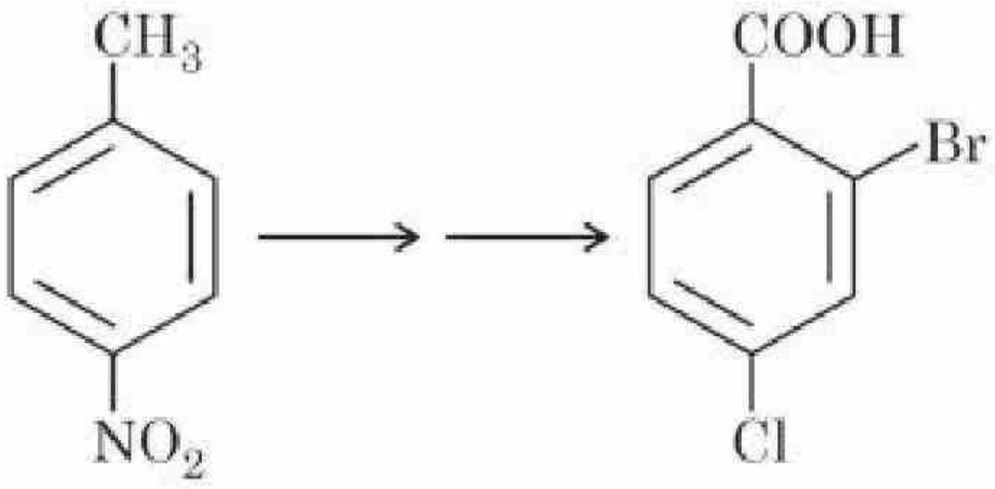
36669410205.



36669410206.

Question Number : 75 Question Id : 3666943275 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 above conversion the correct sequence of reagents to be added is

Options :

36669410207. (i) Br_2/Fe, (ii) Fe/H^+, (iii) $KMnO_4$, (iv) Cl_2

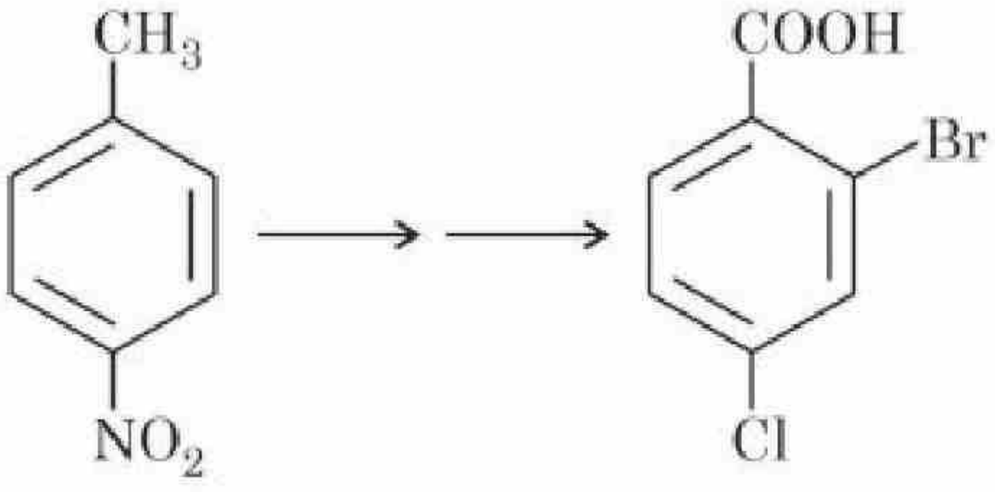
36669410208. (i) $KMnO_4$, (ii) Br_2/Fe, (iii) Fe/H^+, (iv) Cl_2

36669410209. (i) Br_2/Fe, (ii) Fe/H^+, (iii) HONO, (iv) CuCl, (v) $KMnO_4$

36669410210. (i) Fe/H^+, (ii) HONO, (iii) CuCl, (iv) $KMnO_4$, (v) Br_2

Question Number : 75 Question Id : 3666943275 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



उपर्युक्त परिवर्तन में उपयोग किए गए अभिकर्मकों का सही क्रम है:

Options :

36669410207. (i) Br_2/Fe, (ii) Fe/H^+, (iii) $KMnO_4$, (iv) Cl_2

36669410208. (i) $KMnO_4$, (ii) Br_2/Fe, (iii) Fe/H^+, (iv) Cl_2

36669410209. (i) Br_2/Fe, (ii) Fe/H^+, (iii) HONO, (iv) CuCl, (v) $KMnO_4$

36669410210. (i) Fe/H^+, (ii) HONO, (iii) CuCl, (iv) $KMnO_4$, (v) Br_2

Question Number : 76 Question Id : 3666943276 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

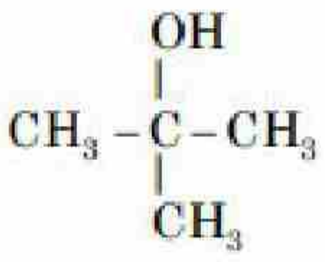
Correct Marks : 4 Wrong Marks : 1

The product formed in the following multistep reaction is :

$$CH_3-CH=CH_2 \xrightarrow[\text{iii) PCC}]{\text{i) } B_2H_6 \text{ ii) } H_2O_2, NaOH} \xrightarrow{\text{iv) } CH_3MgBr}$$

Options :

36669410211.



36669410212.

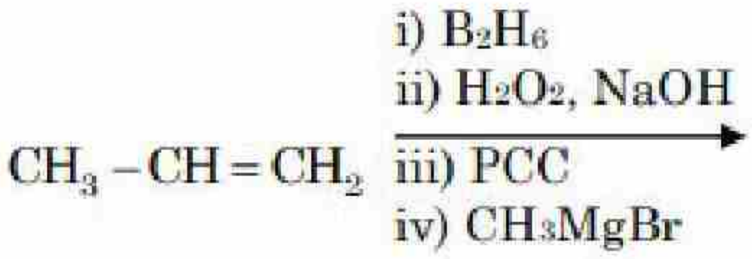
36669410213.

36669410214

Question Number : 76 Question Id : 3666943276 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

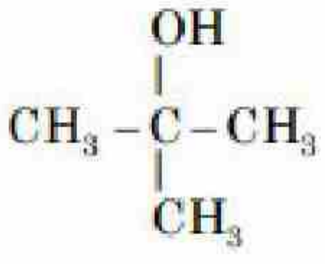
Correct Marks : 4 Wrong Marks : 1

निम्न बहुचरणी अभिक्रिया में निर्मित उत्पाद है :

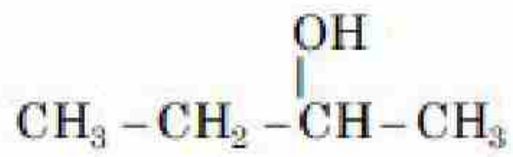


Options :

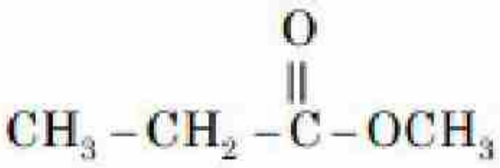
36669410211.



36669410212.



36669410213.

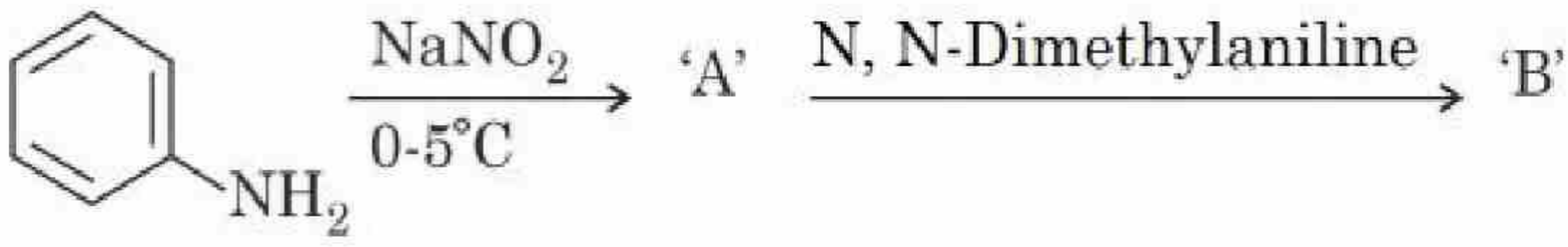


36669410214.

Question Number : 77 Question Id : 3666943277 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

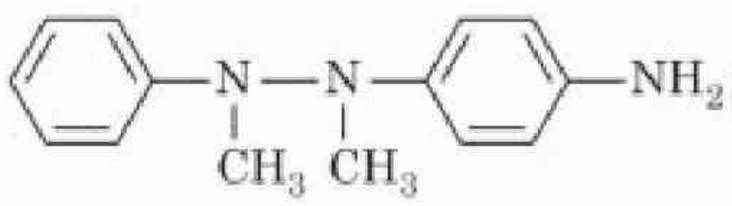
Consider the following sequence of reactions:



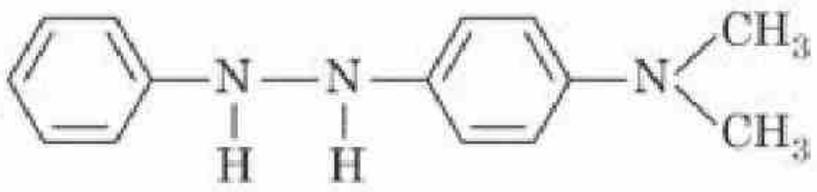
The product 'B' is

Options :

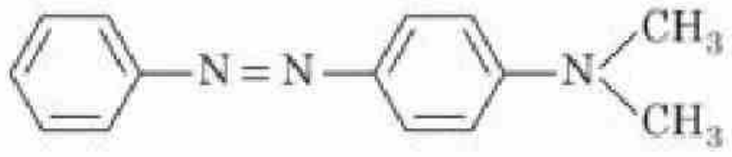
36669410215.



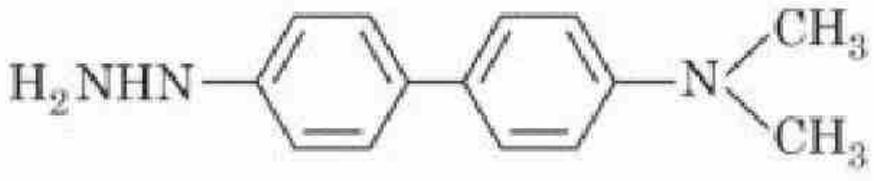
36669410216.



36669410217.



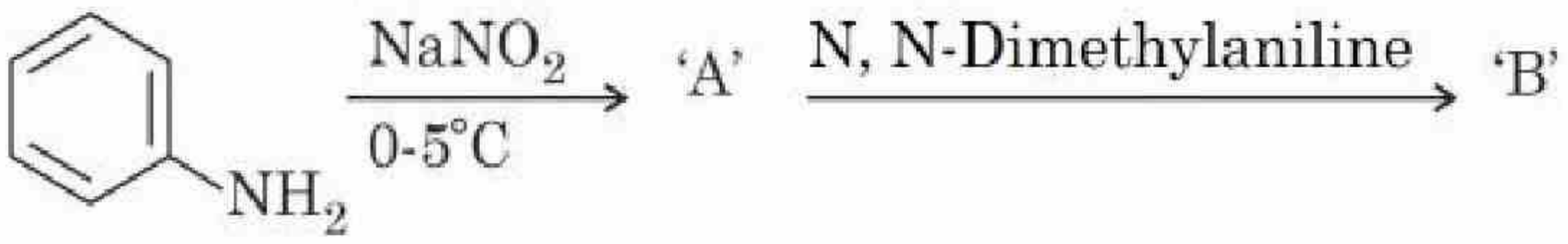
36669410218.



Question Number : 77 Question Id : 3666943277 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

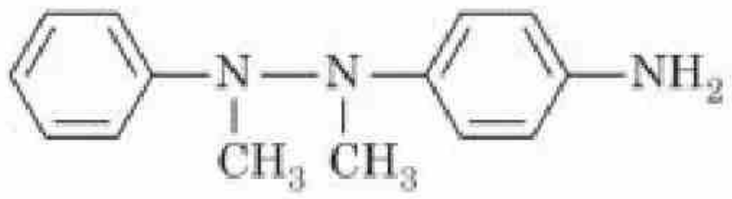
अभिक्रियाओं के निम्न क्रम पर विचार करें:



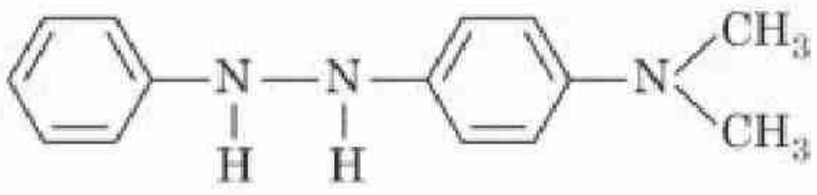
उत्पाद 'B' है:

Options :

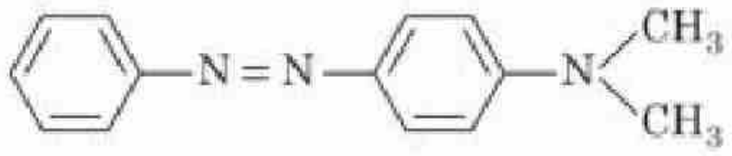
36669410215.



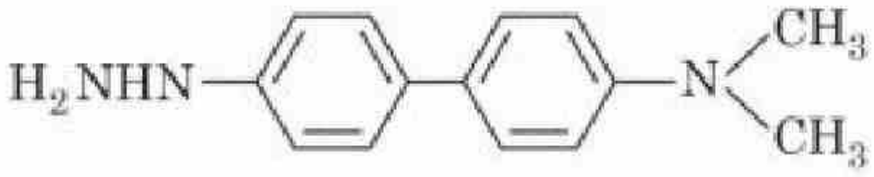
36669410216.



36669410217.



36669410218.



Question Number : 78 Question Id : 3666943278 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 – (Monomer)		**List II – (Polymer)**
(A)	Tetrafluoroethene	(I)	Orlon
(B)	Acrylonitrile	(II)	Natural rubber
(C)	Caprolactam	(III)	Teflon
(D)	Isoprene	(IV)	Nylon-6

Choose the correct answer from the options given below :

Options :

36669410219. (A)-(III), (B)-(I), (C)-(IV), (D)-(II)

36669410220. (A)-(III), (B)-(IV), (C)-(II), (D)-(I)

36669410221. (A)-(II), (B)-(III), (C)-(IV), (D)-(I)

36669410222. (A)-(IV), (B)-(I), (C)-(II), (D)-(III)

Question Number : 78 Question Id : 3666943278 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 मिलान सूची II से करें:

	सूची I – (एकलक)		**सूची II – (बहुलक)**
(A)	टेट्राफ्लुओरोएथीन	(I)	ऑरलॉन
(B)	ऐक्रिलोनाइट्राइल	(II)	प्राकृतिक रबर
(C)	कैप्रोलैक्टम	(III)	टेफलॉन
(D)	आइसोप्रीन	(IV)	नाइलॉन-6

नीचे दिए गए विकल्पों में से सही उत्तर चुनें :

Options :

36669410219 (A)-(III), (B)-(I), (C)-(IV), (D)-(II)

36669410220. (A)-(III), (B)-(IV), (C)-(II), (D)-(I)

36669410221. (A)-(II), (B)-(III), (C)-(IV), (D)-(I)

36669410222. (A)-(IV), (B)-(I), (C)-(II), (D)-(III)

Question Number : 79 Question Id : 3666943279 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 is not true for arginine?

Options :

36669410223. It is a crystalline solid.

36669410224. It has high solubility in benzene.

36669410225. It has a fairly high melting point.

36669410226. It is associated with more than one pK_a values.

Question Number : 79 Question Id : 3666943279 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

आर्जिनीन के लिए कौन सही नहीं हैं?

Options :

36669410223. यह एक क्रिस्टलीय ठोस है।

36669410224. बेन्जीन में इसकी विलेयता उच्च है।

36669410225. इसका गलनांक उच्च है।

36669410226. इसके पास एक से अधिक pK_a मान है।

Question Number : 80 Question Id : 3666943280 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 statement is correct for paper chromatography?

Options :

36669410227. Paper sheet forms the stationary phase.

36669410228. Water present in the pores of the paper forms the stationary phase.

36669410229. Paper and water present in its pores together form the stationary phase.

36669410230. Water present in the mobile phase gets absorbed by the paper which then forms the stationary phase.

Question Number : 80 Question Id : 3666943280 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

पेपर क्रोमेटोग्रैफी (कागज़ वर्णलेखन) के संदर्भ में निम्न में से कौन सा कथन सत्य है?

Options :

36669410227. पेपर शीट स्थिर प्रावस्था का कार्य करता है।

36669410228. पेपर के छिद्रों में उपस्थित जल स्थिर प्रावस्था का कार्य करता है।

36669410229. पेपर एवं उसके छिद्रों में उपस्थित जल स्थिर प्रावस्था का कार्य करता है।

36669410230. गतिशील प्रावस्था में उपस्थित जल को पेपर द्वारा अवशोषित किया जाता है, जो अब स्थिर प्रावस्था का कार्य करता है।

Chemistry Section B

Section Id :	366694183
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 : 366694183

Question Shuffling Allowed : Yes

Is Section Default? : null

Question Number : 81 Question Id : 3666943281 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

The volume (in mL) of 0.1 M $AgNO_3$ required for complete precipitation of chloride ions present in 20 mL of 0.01 M solution of $[Cr(H_2O)_5Cl]Cl_2$ as silver chloride is _____

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 81 Question Id : 3666943281 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

$[Cr(H_2O)_5Cl]Cl_2$ के 0.01 M विलयन के 20 mL आयतन में उपस्थित क्लोराइड आयनों के सिल्वर क्लोराइड के रूप में पूर्ण अवक्षेपण हेतु 0.1 M $AgNO_3$ का आवश्यक आयतन (mL में) है:

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 82 Question Id : 3666943282 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

30.4 kJ of heat is required to melt one mole of sodium chloride and the entropy change at the melting point is 28.4 J K^{-1} mol^{-1} at 1 atm. The melting point of sodium chloride is ———— K (Nearest Integer)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 82 Question Id : 3666943282 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

एक मोल सोडियम क्लोराइड को पिघलाने हेतु 30.4 kJ उष्मा की आवश्यकता होती है तथा 1 atm दाब पर गलनांक पर एन्ट्रॉपी परिवर्तन 28.4 J K^{-1} mol^{-1} है। सोडियम क्लोराइड का गलनांक है ———— K (निकटतम पूर्णांक में)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 83 Question Id : 3666943283 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

The vapour pressure of 30% (w/v) aqueous solution of glucose is ———— mm Hg at 25°C.

[Given : The density of 30% (w/v), aqueous solution of glucose is 1.2 g cm^{-3} and vapour pressure of pure water is 24 mm Hg.]

(Molar mass of glucose is 180 g mol^{-1}.)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 83 Question Id : 3666943283 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

25°C पर ग्लूकोस के जलीय विलयन 30% (w/v) का वाष्प दाब है: ———— mm Hg

[दिया गया है : ग्लूकोस के जलीय विलयन 30% (w/v) का घनत्व 1.2 g cm^{-3} तथा शुद्ध जल का वाष्प दाब 24 mm Hg है]

(ग्लूकोस का मोलर द्रव्यमान 180 g mol^{-1} है)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 84 Question Id : 3666943284 Question Type : SA Calculator : None

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

The number of correct statements from the following is _____

(A) Conductivity always decreases with decrease in concentration for both strong and weak electrolytes.

(B) The number of ions per unit volume that carry current in a solution increases on dilution.

(C) Molar conductivity increases with decrease in concentration.

(D) The variation in molar conductivity is different for strong and weak electrolytes.

(E) For weak electrolytes, the change in molar conductivity with dilution is due to decrease in degree of dissociation.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 84 Question Id : 3666943284 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

निम्न में से सही कथनों की संख्या है:

(A) प्रबल एवं दुर्बल विद्युत अपघट्यों दोनों के लिए, सान्द्रता में कमी से चालकता में सदैव कमी आती है।

(B) तनुता बढ़ाने के साथ, विलयन में विद्युत धारा वहन करने वाले आयनों की संख्या प्रति इकाई आयतन, बढ़ती है।

(C) सान्द्रता में कमी से साथ मोलर चालकता में वृद्धि होती है।

(D) प्रबल एवं दुर्बल विद्युत अपघट्यों के लिए मोलर चालकता में परिवर्तन भिन्न-भिन्न होता है।

(E) दुर्बल विद्युत अपघट्यों के लिए, तनुता के साथ मोलर चालकता में परिवर्तन उसके वियोजन के अंश में कमी के कारण होती है।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 85 Question Id : 3666943285 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 reversible reaction A $\rightleftharpoons$ B, the $\Delta H_{\text{forward reaction}} = 20\ \text{kJ mol}^{-1}$. The activation energy of the uncatalysed forward reaction is 300 kJ mol^{-1}. When the reaction is catalysed keeping the reactant concentration same, the rate of the catalysed forward reaction at 27°C is found to be same as that of the uncatalysed reaction at 327°C. The activation energy of the catalysed backward reaction is ———— kJ mol^{-1}.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 85 Question Id : 3666943285 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

उत्क्रमणीय अभिक्रिया A $\rightleftharpoons$ B के लिए, $\Delta H_{\text{forward reaction}} = 20\ \text{kJ mol}^{-1}$ है। बिना उत्प्रेरक के अग्र अभिक्रिया के लिए सक्रियण उर्जा 300 kJ mol^{-1} है। अभिकारकों की सान्द्रता समान रखते हुए जब अभिक्रिया को उत्प्रेरक के साथ सम्पादित किया जाता है, तो 27°C पर उत्प्रेरित अग्र अभिक्रिया की दर 327°C पर बिना उत्प्रेरक के अभिक्रिया के समान पायी जाती है। उत्प्रेरित पश्च अभिक्रिया की सक्रियण उर्जा है : ———— kJ mol^{-1}.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 86 Question Id : 3666943286 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

20 mL of 0.5 M NaCl is required to coagulate 200 mL of As_2S_3 solution in 2 hours. The coagulating value of NaCl is _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 86 Question Id : 3666943286 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

As_2S_3 के 200 mL विलयन को 2 घंटे में स्कंदित करने के लिए 0.5 M NaCl के 20 mL की आवश्यकता पड़ती है। NaCl का स्कंदन मान है: _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 87 Question Id : 3666943287 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

The total number of isoelectronic species from the given set is ————————.

O^{2-}, F^{-}, Al, Mg^{2+}, Na^{+}, O^{+}, Mg, Al^{3+}, F

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 87 Question Id : 3666943287 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

दिए गए सेट में समइलेक्ट्रॉनिक स्पीशीज़ की कुल संख्या है: ————————.

O^{2-}, F^{-}, Al, Mg^{2+}, Na^{+}, O^{+}, Mg, Al^{3+}, F

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 88 Question Id : 3666943288 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

The total change in the oxidation state of manganese involved in the reaction of $KMnO_4$ and potassium iodide in the acidic medium is _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 88 Question Id : 3666943288 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

अम्लीय माध्यम में $KMnO_4$ एवं पोटैशियम आयोडाइड की अभिक्रिया में मैंगनीज की ऑक्सीकरण अवस्था में हुआ कुल परिवर्तन है: _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 89 Question Id : 3666943289 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

The homoleptic and octahedral complex of Co^{2+} and H_2O has ———— unpaired electron(s) in the t_{2g} set of orbitals.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 89 Question Id : 3666943289 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

Co^{2+} एवं H_2O के साथ निर्मित होमोलेप्टिक एवं अष्टफलकीय संकुल में कक्षकों के t_{2g} सेट में उपस्थित अयुग्मित इलेक्ट्रॉन है:

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 90 Question Id : 3666943290 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

In Chromyl chloride, the oxidation state of chromium is (+) ————————.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 90 Question Id : 3666943290 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

क्रोमिल क्लोराइड में क्रोमियम की ऑक्सीकरण अवस्था है: (+) ————————.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10