

National Testing Agency

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B. Tech

Group Number :	1
Group Id :	5335435
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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 :	53354318
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 :	53354318
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 1 Question Id : 533543377 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 $S = \{1, 2, 3, \dots, 10\}$. Suppose M is the set of all the subsets of S , then the relation $R = \{(A, B) : A \cap B \neq \phi; A, B \in M\}$ is :

Options :

5335431361. symmetric and transitive only

5335431362. symmetric and reflexive only

5335431363. symmetric only

5335431364. reflexive only

Question Number : 1 Question Id : 533543377 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 $S = \{1, 2, 3, \dots, 10\}$ है। माना S के सभी उपसमुच्चयों का समुच्चय M है, तो संबंध
 $R = \{(A, B) : A \cap B \neq \phi; A, B \in M\}$:

Options :

5335431361. केवल सममित और संक्रामक है।

5335431362. केवल सममित और स्वतुल्य है।

5335431363. केवल सममित है।

5335431364. केवल स्वतुल्य है।

Question Number : 2 Question Id : 533543378 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 function $f: N - \{1\} \rightarrow N$; defined by $f(n) =$ the highest prime factor of n , is :

Options :

5335431365. one-one only

5335431366. onto only

5335431367. both one-one and onto

5335431368. neither one-one nor onto

Question Number : 2 Question Id : 533543378 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

फलन $f: \mathbb{N} - \{1\} \rightarrow \mathbb{N}; f(n) =$ पूर्णांक n का सबसे बड़ा अभाज्य गुणखंड, द्वारा परिभाषित है। तो f :

Options :

5335431365. केवल एकैकी है

5335431366. केवल आच्छादक है

5335431367. एकैकी और आच्छादक दोनों है

5335431368. न तो एकैकी है न ही आच्छादक है

Question Number : 3 Question Id : 533543379 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 $S = \{z \in \mathbb{C} : |z - i| = |z + i| = |z - 1|\}$, then, $n(S)$ is :

Options :

5335431369. 0

5335431370. 1

5335431371. 2

5335431372. 3

Question Number : 3 Question Id : 533543379 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 $S = \{z \in \mathbb{C} : |z - i| = |z + i| = |z - 1|\}$ है, तो $n(S)$ बराबर है :

Options :

5335431369. 0

5335431370. 1

5335431371. 2

5335431372. 3

Question Number : 4 Question Id : 533543380 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 matrix $f(x) = \begin{bmatrix} \cos x & -\sin x & 0 \\ \sin x & \cos x & 0 \\ 0 & 0 & 1 \end{bmatrix}$.

Given below are two statements :

Statement I : $f(-x)$ is the inverse of the matrix $f(x)$.

Statement II : $f(x) f(y) = f(x+y)$.

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

Options :

5335431373. Both **Statement I** and **Statement II** are true

5335431374. Both **Statement I** and **Statement II** are false

5335431375. **Statement I** is true but **Statement II** is false

5335431376. **Statement I** is false but **Statement II** is true

Question Number : 4 Question Id : 533543380 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

आव्यूह $f(x) = \begin{bmatrix} \cos x & -\sin x & 0 \\ \sin x & \cos x & 0 \\ 0 & 0 & 1 \end{bmatrix}$ के लिए

नीचे दो कथन दिए गए हैं :

कथन I : आव्यूह $f(x)$ का व्युत्क्रम $f(-x)$ है।

कथन II : $f(x)f(y) = f(x+y)$ है।

उपर्युक्त कथनों के लिये, नीचे दिए गए विकल्पों में से सही उत्तर चुनिए।

Options :

5335431373. **कथन I तथा कथन II दोनों सत्य हैं।**

5335431374. **कथन I तथा कथन II दोनों असत्य हैं।**

5335431375. **कथन I सत्य है परन्तु कथन II असत्य है।**

5335431376. **कथन I असत्य है परन्तु कथन II सत्य है।**

Question Number : 5 Question Id : 533543381 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

${}^{n-1}C_r = (k^2 - 8) {}^nC_{r+1}$ if and only if :

Options :

5335431377. $2\sqrt{2} < k \leq 3$

5335431378.

$$2\sqrt{3} < k \leq 3\sqrt{2}$$

5335431379. $2\sqrt{2} < k < 2\sqrt{3}$

5335431380. $2\sqrt{3} < k < 3\sqrt{3}$

Question Number : 5 Question Id : 533543381 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

${}^{n-1}C_r = (k^2 - 8) {}^nC_{r+1}$ है यदि और केवल यदि :

Options :

5335431377. $2\sqrt{2} < k \leq 3$

5335431378. $2\sqrt{3} < k \leq 3\sqrt{2}$

5335431379. $2\sqrt{2} < k < 2\sqrt{3}$

5335431380. $2\sqrt{3} < k < 3\sqrt{3}$

Question Number : 6 Question Id : 533543382 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 A denotes the sum of all the coefficients in the expansion of $(1 - 3x + 10x^2)^n$ and B denotes the sum of all the coefficients in the expansion of $(1 + x^2)^n$, then :

Options :

5335431381. $A = 3B$

5335431382. $A = B^3$

5335431383. $B = A^3$

5335431384. $3A = B$

Question Number : 6 Question Id : 533543382 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 $(1 - 3x + 10x^2)^n$ के प्रसार में सभी गुणांकों का योग A है तथा $(1 + x^2)^n$ के प्रसार में सभी गुणांकों का योग B है, तो :

Options :

5335431381. $A = 3B$

5335431382. $A = B^3$

5335431383. $B = A^3$

5335431384. $3A = B$

Question Number : 7 Question Id : 533543383 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 terms in the progressions 4, 9, 14, 19, , up to 25th term and 3, 6, 9, 12, , up to 37th term is :

Options :

5335431385. 5

5335431386. 7

5335431387. 8

5335431388. 9

Question Number : 7 Question Id : 533543383 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

श्रेढ़ियों 4, 9, 14, 19, , 25 पदों तक तथा 3, 6, 9, 12, , 37 पदों तक में उभयनिष्ठ पदों की संख्या है :

Options :

5335431385. 5

5335431386. 7

5335431387. 8

5335431388. 9

Question Number : 8 Question Id : 533543384 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Consider the function.

$$f(x) = \begin{cases} \frac{a(7x-12-x^2)}{b|x^2-7x+12|} & , \quad x < 3 \\ \frac{\sin(x-3)}{2^x - [x]} & , \quad x > 3 \\ b & , \quad x = 3 \end{cases}$$

where $[x]$ denotes the greatest integer less than or equal to x . If S denotes the set of all ordered pairs (a, b) such that $f(x)$ is continuous at $x=3$, then the number of elements in S is :

Options :

5335431389. 4

5335431390. Infinitely many

5335431391. 1

5335431392. 2

Question Number : 8 Question Id : 533543384 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

फलन

$$f(x) = \begin{cases} \frac{a(7x-12-x^2)}{b|x^2-7x+12|}, & x < 3 \\ \frac{\sin(x-3)}{2^{x-[x]}}, & x > 3 \\ b, & x = 3 \end{cases}$$

जहाँ $[x]$ महत्तम पूर्णांक फलन है, का विचार कीजिए। यदि सभी क्रमित युग्मों (a, b) , जिनके लिए $x=3$ पर $f(x)$ संतत है, का समुच्चय S है, तो S में अवयवों की संख्या है :

Options :

5335431389. 4

5335431390. अनंत

5335431391. 1

5335431392. 2

Question Number : 9 Question Id : 533543385 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 $a = \lim_{x \rightarrow 0} \frac{\sqrt{1 + \sqrt{1 + x^4}} - \sqrt{2}}{x^4}$ and $b = \lim_{x \rightarrow 0} \frac{\sin^2 x}{\sqrt{2} - \sqrt{1 + \cos x}}$, then the value of ab^3 is :

Options :

5335431393. 25

5335431394. 30

5335431395. 36

5335431396. 32

Question Number : 9 Question Id : 533543385 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 $a = \lim_{x \rightarrow 0} \frac{\sqrt{1 + \sqrt{1 + x^4}} - \sqrt{2}}{x^4}$ तथा $b = \lim_{x \rightarrow 0} \frac{\sin^2 x}{\sqrt{2} - \sqrt{1 + \cos x}}$ हैं, तो ab^3 का मान है :

Options :

5335431393. 25

5335431394. 30

5335431395. 36

5335431396. 32

Question Number : 10 Question Id : 533543386 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 shortest distance of the parabola $y^2 = 4x$ from the centre of the circle $x^2 + y^2 - 4x - 16y + 64 = 0$ is d , then d^2 is equal to :

Options :

5335431397. 16

5335431398. 20

5335431399. 24

5335431400. 36

Question Number : 10 Question Id : 533543386 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 वृत्त $x^2 + y^2 - 4x - 16y + 64 = 0$ के केन्द्र से परवलय $y^2 = 4x$ की न्यूनतम दूरी d है, तो d^2 बराबर है :

Options :

5335431397. 16

5335431398. 20

5335431399. 24

5335431400. 36

Question Number : 11 Question Id : 533543387 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 $\int_0^1 \frac{1}{\sqrt{3+x} + \sqrt{1+x}} dx = a + b\sqrt{2} + c\sqrt{3}$, where a, b, c are rational numbers, then $2a + 3b - 4c$ is equal to :

Options :

5335431401. 4

5335431402. 7

5335431403. 8

5335431404. 10

Question Number : 11 Question Id : 533543387 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 $\int_0^1 \frac{1}{\sqrt{3+x} + \sqrt{1+x}} dx = a + b\sqrt{2} + c\sqrt{3}$ है, जहाँ a, b, c परिमेय संख्याएँ हैं, तो $2a+3b-4c$ बराबर है :

Options :

5335431401. 4

5335431402. 7

5335431403. 8

5335431404. 10

Question Number : 12 Question Id : 533543388 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 (a, b) be the orthocentre of the triangle whose vertices are $(1, 2)$, $(2, 3)$ and $(3, 1)$, and

$I_1 = \int_a^b x \sin(4x - x^2) dx$, $I_2 = \int_a^b \sin(4x - x^2) dx$, then $36 \frac{I_1}{I_2}$ is equal to :

Options :

5335431405. 72

5335431406. 80

5335431407. 88

5335431408. 66

Question Number : 12 Question Id : 533543388 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 $(1, 2)$, $(2, 3)$ तथा $(3, 1)$ के त्रिभुज का लंबकेन्द्र (a, b) है, तथा

$$I_1 = \int_a^b x \sin(4x - x^2) dx, I_2 = \int_a^b \sin(4x - x^2) dx \text{ है, तो } 36 \frac{I_1}{I_2} \text{ बराबर है :}$$

Options :

5335431405. 72

5335431406. 80

5335431407. 88

5335431408. 66

Question Number : 13 Question Id : 533543389 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 $x = x(t)$ and $y = y(t)$ be solutions of the differential equations $\frac{dx}{dt} + ax = 0$ and $\frac{dy}{dt} + by = 0$ respectively, $a, b \in \mathbb{R}$. Given that $x(0) = 2$; $y(0) = 1$ and $3y(1) = 2x(1)$, the value of t , for which $x(t) = y(t)$, is :

Options :

5335431409. $\log_{\frac{2}{3}} 2$

5335431410. $\log_4 3$

5335431411. $\log_{\frac{4}{3}} 2$

5335431412. $\log_3 4$

Question Number : 13 Question Id : 533543389 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 समीकरणों $\frac{dx}{dt} + ax = 0$ तथा $\frac{dy}{dt} + by = 0$, $a, b \in \mathbb{R}$ के हल क्रमशः $x = x(t)$ तथा $y = y(t)$ हैं।

यदि $x(0) = 2$; $y(0) = 1$ तथा $3y(1) = 2x(1)$ हैं, तो $x(t) = y(t)$ के लिए t का मान है :

Options :

5335431409. $\log_{\frac{2}{3}} 2$

5335431410. $\log_4 3$

5335431411. $\log_4 2^{\frac{2}{3}}$

5335431412. $\log_3 4$

Question Number : 14 Question Id : 533543390 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

Four distinct points $(2k, 3k)$, $(1, 0)$, $(0, 1)$ and $(0, 0)$ lie on a circle for k equal to :

Options :

5335431413. $\frac{1}{13}$

5335431414. $\frac{2}{13}$

5335431415. $\frac{3}{13}$

5335431416. $\frac{5}{13}$

Question Number : 14 Question Id : 533543390 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 चार भिन्न बिंदु $(2k, 3k)$, $(1, 0)$, $(0, 1)$ तथा $(0, 0)$ एक वृत्त पर हैं, तो k बराबर है :

Options :

5335431413. $\frac{1}{13}$

5335431414. $\frac{2}{13}$

5335431415. $\frac{3}{13}$

5335431416. $\frac{5}{13}$

Question Number : 15 Question Id : 533543391 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 portion of the line $4x + 5y = 20$ in the first quadrant is trisected by the lines L_1 and L_2 passing through the origin. The tangent of an angle between the lines L_1 and L_2 is :

Options :

5335431417. $\frac{2}{5}$

5335431418. $\frac{8}{5}$

5335431419. $\frac{25}{41}$

5335431420. $\frac{30}{41}$

Question Number : 15 Question Id : 533543391 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

रेखा $4x + 5y = 20$ के प्रथम चतुर्थांश में भाग को मूल बिंदु से होकर जाने वाली रेखाएँ L_1 तथा L_2 , समत्रिभाजित करती हैं।
 L_1 तथा L_2 के बीच एक कोण की स्पर्शज्या है :

Options :

5335431417. $\frac{2}{5}$

5335431418. $\frac{8}{5}$

5335431419. $\frac{25}{41}$

5335431420. $\frac{30}{41}$

Question Number : 16 Question Id : 533543392 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 length of the chord of the ellipse $\frac{x^2}{25} + \frac{y^2}{16} = 1$, whose mid point is $\left(1, \frac{2}{5}\right)$, is equal to :

Options :

5335431421. $\frac{\sqrt{2009}}{5}$

5335431422. $\frac{\sqrt{1741}}{5}$

5335431423. $\frac{\sqrt{1691}}{5}$

5335431424. $\frac{\sqrt{1541}}{5}$

Question Number : 16 Question Id : 533543392 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

दीर्घवृत्त $\frac{x^2}{25} + \frac{y^2}{16} = 1$ की उस जीवा, जिसका मध्य बिंदु $\left(1, \frac{2}{5}\right)$ है, की लम्बाई है :

Options :

5335431421. $\frac{\sqrt{2009}}{5}$

5335431422. $\frac{\sqrt{1741}}{5}$

5335431423. $\frac{\sqrt{1691}}{5}$

5335431424. $\frac{\sqrt{1541}}{5}$

Question Number : 17 Question Id : 533543393 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 distance, of the point $(7, -2, 11)$ from the line $\frac{x-6}{1} = \frac{y-4}{0} = \frac{z-8}{3}$ along the line

$\frac{x-5}{2} = \frac{y-1}{-3} = \frac{z-5}{6}$, is :

Options :

5335431425. 12

5335431426. 14

5335431427. 18

5335431428. 21

Question Number : 17 Question Id : 533543393 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

बिंदु $(7, -2, 11)$ की रेखा $\frac{x-6}{1} = \frac{y-4}{0} = \frac{z-8}{3}$ से रेखा $\frac{x-5}{2} = \frac{y-1}{-3} = \frac{z-5}{6}$ के अनुदिश दूरी है :

Options :

5335431425. 12

5335431426. 14

5335431427. 18

5335431428. 21

Question Number : 18 Question Id : 533543394 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 shortest distance between the lines $\frac{x-4}{1} = \frac{y+1}{2} = \frac{z}{-3}$ and $\frac{x-\lambda}{2} = \frac{y+1}{4} = \frac{z-2}{-5}$ is

$\frac{6}{\sqrt{5}}$, then the sum of all possible values of λ is :

Options :

5335431429. 5

5335431430.

7

5335431431. 8

5335431432. 10

Question Number : 18 Question Id : 533543394 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 रेखाओं $\frac{x-4}{1} = \frac{y+1}{2} = \frac{z}{-3}$ तथा $\frac{x-\lambda}{2} = \frac{y+1}{4} = \frac{z-2}{-5}$ के बीच न्यूनतम दूरी $\frac{6}{\sqrt{5}}$ है, तो λ के सभी संभव मानों का योग है :

Options :

5335431429. 5

5335431430. 7

5335431431. 8

5335431432. 10

Question Number : 19 Question Id : 533543395 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Let $\vec{a} = \hat{i} + 2\hat{j} + \hat{k}$, $\vec{b} = 3(\hat{i} - \hat{j} + \hat{k})$. Let $\vec{c}$ be the vector such that $\vec{a} \times \vec{c} = \vec{b}$ and

$\vec{a} \cdot \vec{c} = 3$. Then $\vec{a} \cdot ((\vec{c} \times \vec{b}) - \vec{b} - \vec{c})$ is equal to :

Options :

5335431433. 20

5335431434. 24

5335431435. 36

5335431436. 32

Question Number : 19 Question Id : 533543395 Question Type : MCQ Option Shuffling : Yes Is

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

Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

माना $\vec{a} = \hat{i} + 2\hat{j} + \hat{k}$, $\vec{b} = 3(\hat{i} - \hat{j} + \hat{k})$ है। माना एक सदिश $\vec{c}$ के लिए $\vec{a} \times \vec{c} = \vec{b}$ तथा $\vec{a} \cdot \vec{c} = 3$

हैं। तो $\vec{a} \cdot ((\vec{c} \times \vec{b}) - \vec{b} - \vec{c})$ बराबर है :

Options :

5335431433. 20

5335431434. 24

5335431435. 36

5335431436. 32

Question Number : 20 Question Id : 533543396 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Let $a_1, a_2, \dots, a_{10}$ be 10 observations such that $\sum_{k=1}^{10} a_k = 50$ and $\sum_{\forall k < j} a_k \cdot a_j = 1100$. Then the standard deviation of $a_1, a_2, \dots, a_{10}$ is equal to :

Options :

5335431437. 5

5335431438. 10

5335431439. $\sqrt{5}$

5335431440. $\sqrt{115}$

Question Number : 20 Question Id : 533543396 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 10 प्रेक्षणों $a_1, a_2, \dots, a_{10}$ के लिए $\sum_{k=1}^{10} a_k = 50$ तथा $\sum_{\forall k < j} a_k \cdot a_j = 1100$ हैं। तो $a_1, a_2, \dots, a_{10}$ का मानक

विचलन बराबर है :

Options :

5335431437. 5

5335431438. 10

5335431439. $\sqrt{5}$

5335431440. $\sqrt{115}$

Mathematics Section B

Section Id :	53354319
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 :	53354319

Question Shuffling Allowed :

Yes

Is Section Default? :

null

Question Number : 21 Question Id : 533543397 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

If α satisfies the equation $x^2 + x + 1 = 0$ and $(1 + \alpha)^7 = A + B\alpha + C\alpha^2$, $A, B, C \geq 0$, then $5(3A - 2B - C)$ is equal to _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 21 Question Id : 533543397 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

यदि α समीकरण $x^2 + x + 1 = 0$ को संतुष्ट करता है तथा $(1 + \alpha)^7 = A + B\alpha + C\alpha^2$, $A, B, C \geq 0$ हैं, तो $5(3A - 2B - C)$ बराबर है _____।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 22 Question Id : 533543398 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

Let $A = \begin{bmatrix} 2 & 0 & 1 \\ 1 & 1 & 0 \\ 1 & 0 & 1 \end{bmatrix}$, $B = [B_1, B_2, B_3]$, where B_1, B_2, B_3 are column matrices, and

$$AB_1 = \begin{bmatrix} 1 \\ 0 \\ 0 \end{bmatrix}, AB_2 = \begin{bmatrix} 2 \\ 3 \\ 0 \end{bmatrix}, AB_3 = \begin{bmatrix} 3 \\ 2 \\ 1 \end{bmatrix}$$

If $\alpha = |B|$ and β is the sum of all the diagonal elements of B , then $\alpha^3 + \beta^3$ is equal to _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 22 Question Id : 533543398 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

माना $A = \begin{bmatrix} 2 & 0 & 1 \\ 1 & 1 & 0 \\ 1 & 0 & 1 \end{bmatrix}$, $B = [B_1, B_2, B_3]$ हैं, जहाँ B_1, B_2, B_3 स्तंभ आव्यूह हैं तथा

$$AB_1 = \begin{bmatrix} 1 \\ 0 \\ 0 \end{bmatrix}, AB_2 = \begin{bmatrix} 2 \\ 3 \\ 0 \end{bmatrix}, AB_3 = \begin{bmatrix} 3 \\ 2 \\ 1 \end{bmatrix} \text{ हैं।}$$

यदि $\alpha = |B|$ तथा B के विकर्ण के सभी अवयवों का योग β है, तो $\alpha^3 + \beta^3$ बराबर है _____।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 23 **Question Id :** 533543399 **Question Type :** SA **Calculator :** None **Response**

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

Correct Marks : 4 **Wrong Marks :** 1

Let for a differentiable function $f: (0, \infty) \rightarrow \mathbb{R}$, $f(x) - f(y) \geq \log_e \left(\frac{x}{y} \right) + x - y, \forall x, y \in (0, \infty)$.

Then $\sum_{n=1}^{20} f' \left(\frac{1}{n^2} \right)$ is equal to _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 23 **Question Id :** 533543399 **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 अवकलनीय फलन $f: (0, \infty) \rightarrow \mathbb{R}$ के लिए, $f(x) - f(y) \geq \log_e \left(\frac{x}{y} \right) + x - y, \forall x, y \in (0, \infty)$ है। तो

$\sum_{n=1}^{20} f' \left(\frac{1}{n^2} \right)$ बराबर है _____।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 24 **Question Id :** 533543400 **Question Type :** SA **Calculator :** None **Response**

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

Correct Marks : 4 **Wrong Marks :** 1

If $8 = 3 + \frac{1}{4}(3 + p) + \frac{1}{4^2}(3 + 2p) + \frac{1}{4^3}(3 + 3p) + \dots \infty$, then the value of p is _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 24 **Question Id :** 533543400 **Question Type :** SA **Calculator :** None **Response**

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

Correct Marks : 4 **Wrong Marks :** 1

यदि $8 = 3 + \frac{1}{4}(3 + p) + \frac{1}{4^2}(3 + 2p) + \frac{1}{4^3}(3 + 3p) + \dots \infty$ है, तो p का मान है _____।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 25 Question Id : 533543401 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

Let $f(x) = x^3 + x^2 f'(1) + x f''(2) + f'''(3)$, $x \in \mathbb{R}$. Then $f'(10)$ is equal to _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 25 Question Id : 533543401 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

माना $f(x) = x^3 + x^2 f'(1) + x f''(2) + f'''(3)$, $x \in \mathbb{R}$ है। तो $f'(10)$ बराबर है _____।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 26 Question Id : 533543402 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 area of the region $\{(x, y) : x - 2y + 4 \geq 0, x + 2y^2 \geq 0, x + 4y^2 \leq 8, y \geq 0\}$ be $\frac{m}{n}$, where m and n are coprime numbers. Then $m + n$ is equal to _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 26 Question Id : 533543402 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

माना क्षेत्र $\{(x, y) : x - 2y + 4 \geq 0, x + 2y^2 \geq 0, x + 4y^2 \leq 8, y \geq 0\}$ का क्षेत्रफल $\frac{m}{n}$ है, जहाँ m तथा n असहभाज्य संख्याएँ हैं। तो $m + n$ बराबर है _____।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 27 Question Id : 533543403 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

If the solution of the differential equation $(2x + 3y - 2) dx + (4x + 6y - 7) dy = 0$, $y(0) = 3$, is $\alpha x + \beta y + 3 \log_e |2x + 3y - \gamma| = 6$, then $\alpha + 2\beta + 3\gamma$ is equal to _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 27 **Question Id :** 533543403 **Question Type :** SA **Calculator :** None **Response**

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

Correct Marks : 4 **Wrong Marks :** 1

यदि अवकल समीकरण $(2x + 3y - 2) dx + (4x + 6y - 7) dy = 0$, $y(0) = 3$ का हल $\alpha x + \beta y + 3 \log_e |2x + 3y - \gamma| = 6$ है, तो $\alpha + 2\beta + 3\gamma$ बराबर है _____।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 28 **Question Id :** 533543404 **Question Type :** SA **Calculator :** None **Response**

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

Correct Marks : 4 **Wrong Marks :** 1

The least positive integral value of α , for which the angle between the vectors $\alpha \hat{i} - 2 \hat{j} + 2 \hat{k}$ and $\alpha \hat{i} + 2 \alpha \hat{j} - 2 \hat{k}$ is acute, is _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 28 Question Id : 533543404 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

α का न्यूनतम धनात्मक पूर्णांक मान, जिसके लिए सदिशों $\hat{\alpha i} - 2\hat{j} + 2\hat{k}$ तथा $\hat{\alpha i} + 2\hat{j} - 2\hat{k}$ के बीच का कोण, एक न्यून कोण है, बराबर है _____।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 29 Question Id : 533543405 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

A fair die is tossed repeatedly until a six is obtained. Let X denote the number of tosses required and let $a = P(X=3)$, $b = P(X \geq 3)$ and $c = P(X \geq 6 | X > 3)$. Then $\frac{b+c}{a}$ is equal to _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 29 Question Id : 533543405 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

एक न्याय पासे को छः प्राप्त होने तक बार बार फेंका जाता है। माना पासे को फेंकने की आवश्यक संख्या X है तथा माना

$a = P(X=3)$, $b = P(X \geq 3)$ तथा $c = P(X \geq 6 | X > 3)$ हैं। तो $\frac{b+c}{a}$ बराबर है _____।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 30 Question Id : 533543406 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 set of all $a \in \mathbb{R}$ such that the equation $\cos 2x + a \sin x = 2a - 7$ has a solution be $[p, q]$ and

$r = \tan 9^\circ - \tan 27^\circ - \frac{1}{\cot 63^\circ} + \tan 81^\circ$, then pqr is equal to _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 30 Question Id : 533543406 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

माना $a \in \mathbb{R}$ के सभी मानों, जिनके लिए समीकरण $\cos 2x + a \sin x = 2a - 7$ का एक हल है, का समुच्चय $[p, q]$ है तथा

$r = \tan 9^\circ - \tan 27^\circ - \frac{1}{\cot 63^\circ} + \tan 81^\circ$ है। तो pqr बराबर है _____।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Physics Section A

Section Id :	53354320
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 :	53354320
Question Shuffling Allowed :	Yes

Is Section Default? :

null

Question Number : 31 Question Id : 533543407 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) : Planck's constant and angular momentum have same dimensions.

Statement (II) : Linear momentum and moment of force have same dimensions.

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

Options :

5335431451. Both Statement I and Statement II are true

5335431452. Both Statement I and Statement II are false

5335431453. Statement I is true but Statement II is false

5335431454. Statement I is false but Statement II is true

Question Number : 31 Question Id : 533543407 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 दिये गये हैं :

कथन I : प्लांक नियतांक तथा कोणीय संवेग की विमा समान होती है।

कथन II : रेखिय संवेग तथा बल आघूर्ण की विमा समान होती है।

दिये गये कथनों के संदर्भ में, दिये गये विकल्पों से सही उत्तर चुनिए :

Options :

5335431451. दोनों कथन I और कथन II सत्य हैं

5335431452. दोनों कथन I और कथन II असत्य हैं

5335431453. कथन I सत्य और कथन II असत्य है

5335431454. कथन I असत्य और कथन II सत्य है

Question Number : 32 Question Id : 533543408 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

Position of an ant (S in metres) moving in Y - Z plane is given by $S = 2t^2\hat{j} + 5t\hat{k}$ (where t is in second). The magnitude and direction of velocity of the ant at $t = 1$ s will be :

Options :

5335431455. 4 m/s in x -direction

5335431456. 16 m/s in y -direction

5335431457. 4 m/s in y -direction

5335431458. 9 m/s in z -direction

Question Number : 32 Question Id : 533543408 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

Y-Z तल में गतिमान एक चीटी की स्थिति (S मीटर में) निम्न प्रकार दी गयी है $S = 2t^2 \hat{j} + 5t \hat{k}$ (जहाँ t सेकंड में है)। $t=1$ से पर चीटी के वेग का परिमाण व दिशा होगी :

Options :

5335431455. x दिशा में 4 मी/से

5335431456. y दिशा में 16 मी/से

5335431457. y दिशा में 4 मी/से

5335431458. z दिशा में 9 मी/से

Question Number : 33 Question Id : 533543409 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 of mass 1000 kg is moving horizontally with a velocity 6 m/s. If 200 kg extra mass is added, the final velocity (in m/s) is :

Options :

5335431459. 6

5335431460. 5

5335431461. 3

5335431462. 2

Question Number : 33 Question Id : 533543409 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

1000 किग्रा द्रव्यमान का एक पिण्ड 6 मी/से वेग से क्षैतिज दिशा में गति कर रहा है। यदि 200 किग्रा अतिरिक्त द्रव्यमान जोड़ देने पर अन्तिम वेग (मी/से में) है :

Options :

5335431459. 6

5335431460. 5

5335431461. 3

5335431462. 2

Question Number : 34 Question Id : 533543410 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 train is moving with a speed of 12 m/s on rails which are 1.5 m apart. To negotiate a curve of radius 400 m, the height by which the outer rail should be raised with respect to the inner rail is (Given, $g = 10 \text{ m/s}^2$) :

Options :

5335431463. 4.2 cm

5335431464. 4.8 cm

5335431465. 5.4 cm

5335431466. 6.0 cm

Question Number : 34 Question Id : 533543410 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

रेलगाड़ी 1.5 मी की दूरी पर स्थित पटरियों पर 12 मी/से की चल से गति कर रही हैं। 400 मी त्रिज्या के एक वृत्तीय मोड़ को पार करने के लिए, रेल की बाहरी पटरी अन्दर वाली पटरी से कितनी ऊँचाई पर स्थित है : (दिया है $g = 10 \text{ मी/से}^2$) :

Options :

5335431463. 4.2 सेमी

5335431464. 4.8 सेमी

5335431465. 5.4 सेमी

5335431466. 6.0 सेमी

Question Number : 35 Question Id : 533543411 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 bodies of mass 4 g and 25 g are moving with equal kinetic energies. The ratio of magnitude of their linear momentum is :

Options :

5335431467. 2 : 5

5335431468. 5 : 4

5335431469. 4 : 5

5335431470. 3 : 5

Question Number : 35 Question Id : 533543411 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

4 ग्राम तथा 25 ग्राम की दो वस्तुओं की गतिज ऊर्जाएँ समान हैं। उनके रेखीय संवेगों का अनुपात है :

Options :

5335431467. 2 : 5

5335431468. $5 : 4$

5335431469. $4 : 5$

5335431470. $3 : 5$

Question Number : 36 Question Id : 533543412 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 acceleration due to gravity on the surface of earth is g . If the diameter of earth reduces to half of its original value and mass remains constant, then acceleration due to gravity on the surface of earth would be :

Options :

5335431471. $4g$

5335431472. $\frac{g}{4}$

5335431473. $\frac{g}{2}$

5335431474. $2g$

Question Number : 36 Question Id : 533543412 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum

Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

पृथ्वी तल पर गुरुत्वीय त्वरण g है। यदि द्रव्यमान समान रखकर पृथ्वी की त्रिज्या प्रारम्भिक मात्रा से आधी कर दी जाये तब पृथ्वी तल पर गुरुत्वीय त्वरण कितना होगा :

Options :

5335431471. $4g$

5335431472. $\frac{g}{4}$

5335431473. $\frac{g}{2}$

5335431474. $2g$

Question Number : 37 Question Id : 533543413 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) : Viscosity of gases is greater than that of liquids.

Statement (II) : Surface tension of a liquid decreases due to the presence of insoluble impurities.

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

Options :

5335431475. Both **Statement I** and **Statement II** are correct

5335431476.

Both **Statement I** and **Statement II** are incorrect

5335431477. **Statement I** is correct but **Statement II** is incorrect

5335431478. **Statement I** is incorrect but **Statement II** is correct

Question Number : 37 Question Id : 533543413 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 दिये गये हैं :

कथन (I) : गैसों की श्यानता द्रवों की श्यानता से अधिक होती है।

कथन (II) : अधुलनशील अशुद्धि की उपस्थिति में किसी द्रव का पृष्ठ तनाव घट जाता है।

उपरोक्त कथनों के संदर्भ में, नीचे दिये गये विकल्पों में से **सबसे उचित** उत्तर चुनिए :

Options :

5335431475. दोनों **कथन I** और **कथन II** सही हैं

5335431476. दोनों **कथन I** और **कथन II** गलत हैं

5335431477. **कथन I** सही और **कथन II** गलत है

5335431478. **कथन I** गलत और **कथन II** सही है

Question Number : 38 Question Id : 533543414 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

0.08 kg air is heated at constant volume through 5°C . The specific heat of air at constant volume is $0.17 \text{ kcal/kg}^{\circ}\text{C}$ and $J=4.18 \text{ joule/cal}$. The change in its internal energy is approximately.

Options :

5335431479. 142 J

5335431480. 284 J

5335431481. 298 J

5335431482. 318 J

Question Number : 38 Question Id : 533543414 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

0.08 किग्रा. वायु स्थिर आयतन पर 5°C तक गर्म की गई है। स्थिर आयतन पर वायु की विशिष्ट उष्मा $0.17 \text{ kcal/kg}^{\circ}\text{C}$ तथा $J=4.18 \text{ जूल/कैलरी}$ है। इसकी आन्तरिक उर्जा में परिवर्तन लगभग है :

Options :

5335431479. 142 J

5335431480. 284 J

5335431481. 298 J

5335431482. 318 J

Question Number : 39 Question Id : 533543415 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 average kinetic energy of a monoatomic molecule is 0.414 eV at temperature :
(Use $K_B = 1.38 \times 10^{-23}$ J/mol-K)

Options :

5335431483. 1500 K

5335431484. 1600 K

5335431485. 3000 K

5335431486. 3200 K

Question Number : 39 Question Id : 533543415 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

किस ताप पर किसी एक परमाणुक अणु की औसत गतिज ऊर्जा 0.414 eV है :
(दिया है : $K_B = 1.38 \times 10^{-23} \text{ J/mol-K}$)

Options :

5335431483. 1500 K

5335431484. 1600 K

5335431485. 3000 K

5335431486. 3200 K

Question Number : 40 Question Id : 533543416 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

An electric charge $10^{-6} \mu\text{C}$ is placed at origin (0, 0)m of X-Y co-ordinate system. Two points P and Q are situated at $(\sqrt{3}, \sqrt{3})\text{m}$ and $(\sqrt{6}, 0)\text{m}$ respectively. The potential difference between the points P and Q will be :

Options :

5335431487. $\sqrt{6} \text{ V}$

5335431488. $\sqrt{3} \text{ V}$

5335431489. 0 V

5335431490. 3 V

Question Number : 40 Question Id : 533543416 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 निर्देशांक निकाय के मूल बिन्दु (0, 0) मी पर $10^{-6} \mu\text{C}$ का एक आवेश स्थित है। दो बिन्दु P और Q क्रमशः $(\sqrt{3}, \sqrt{3})$ मी तथा $(\sqrt{6}, 0)$ मी पर स्थित हैं। बिन्दु P व Q के बीच विभान्तर होगा :

Options :

5335431487. $\sqrt{6} \text{ V}$

5335431488. 0 V

5335431489. $\sqrt{3} \text{ V}$

5335431490. 3 V

Question Number : 41 Question Id : 533543417 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 resistance R and length L is cut into 5 equal parts. If these parts are joined parallelly, then resultant resistance will be :

Options :

5335431491.

$$\frac{1}{5} R$$

5335431492. $\frac{1}{25} R$

5335431493. $5 R$

5335431494. $25 R$

Question Number : 41 Question Id : 533543417 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

R प्रतिरोध तथा L लम्बाई के एक तार को 5 बराबर भागों में काटा गया है। यदि इन भागों को समान्तर क्रम में जोड़ दिया जाये तो परिणामी प्रतिरोध होगा :

Options :

5335431491. $\frac{1}{5} R$

5335431492. $\frac{1}{25} R$

5335431493. $5 R$

5335431494. $25 R$

Question Number : 42 Question Id : 533543418 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 proton moving with a constant velocity passes through a region of space without any change in its velocity. If $\vec{E}$ and $\vec{B}$ represent the electric and magnetic fields respectively, then the region of space may have :

- (A) $E=0, B=0$
- (B) $E=0, B \neq 0$
- (C) $E \neq 0, B=0$
- (D) $E \neq 0, B \neq 0$

Choose the most appropriate answer from the options given below :

Options :

5335431495. (A), (B) and (C) only

5335431496. (A), (C) and (D) only

5335431497. (A), (B) and (D) only

5335431498. (B), (C) and (D) only

Question Number : 42 Question Id : 533543418 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 प्रोटॉन आकाश के एक परिसर में बिना वेग परिवर्तन के एक नियत वेग से गति करता है। यदि $\vec{E}$ व $\vec{B}$ क्रमशः वैद्युत क्षेत्र तथा चुम्बकीय क्षेत्र हों तो आकाश के उस परिसर में होगा :

(A) $E=0, B=0$

(B) $E=0, B \neq 0$

(C) $E \neq 0, B=0$

(D) $E \neq 0, B \neq 0$

नीचे दिये गये कथनों में से सबसे उचित उत्तर चुनिए :

Options :

5335431495. केवल (A), (B) और (C)

5335431496. केवल (A), (C) और (D)

5335431497. केवल (A), (B) और (D)

5335431498. केवल (B), (C) और (D)

Question Number : 43 Question Id : 533543419 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 rectangular loop of length 2.5 m and width 2 m is placed at 60° to a magnetic field of 4 T. The loop is removed from the field in 10 s. The average emf induced in the loop during this time is :

Options :

5335431499. -1 V

5335431500. $+1 \text{ V}$

5335431501. -2 V

5335431502. $+2\text{ V}$

Question Number : 43 Question Id : 533543419 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

2.5 मी लम्बाई तथा 2 मी चौड़ाई के एक आयताकार लूप को 4 T के एक चुम्बकीय क्षेत्र में इससे 60° पर रखा गया है। लूप को 10 से में क्षेत्र से हटा दिया जाता है। इस समय में औसत प्रेरित वि.वा. बल है :

Options :

5335431499. -1 V

5335431500. $+1\text{ V}$

5335431501. -2 V

5335431502. $+2\text{ V}$

Question Number : 44 Question Id : 533543420 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 plane electromagnetic wave propagating in x -direction is described by $E_y = (200 \text{ Vm}^{-1}) \sin[1.5 \times 10^7 t - 0.05 x]$; The intensity of the wave is :
(Use $\epsilon_0 = 8.85 \times 10^{-12} \text{ C}^2\text{N}^{-1}\text{m}^{-2}$)

Options :

5335431503. 53.1 Wm^{-2}

5335431504. 106.2 Wm^{-2}

5335431505. 26.6 Wm^{-2}

5335431506. 35.4 Wm^{-2}

Question Number : 44 Question Id : 533543420 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 दिशा में संचरित एक समतल विद्युतचुंबकीय तरंग को निम्न प्रकार प्रदर्शित किया गया है

$E_y = (200 \text{ Vm}^{-1}) \sin(1.5 \times 10^7 t - 0.05 x)$ । तरंग की तीव्रता है (दिया है $\epsilon_0 = 8.85 \times 10^{-12} \text{ C}^2\text{N}^{-1}\text{m}^{-2}$) :

Options :

5335431503. 53.1 Wm^{-2}

5335431504. 106.2 Wm^{-2}

5335431505. 26.6 Wm^{-2}

5335431506. 35.4 Wm^{-2}

Question Number : 45 Question Id : 533543421 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 refractive index of the material of a prism is $\cot\left(\frac{A}{2}\right)$, where A is the angle of prism then the angle of minimum deviation will be :

Options :

5335431507. $\pi - 2A$

5335431508. $\pi - A$

5335431509. $\frac{\pi}{2} - 2A$

5335431510. $\frac{\pi}{2} - A$

Question Number : 45 Question Id : 533543421 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 एक प्रिज्म के पदार्थ का अपवर्तनांक $\cot\left(\frac{A}{2}\right)$ है जहाँ A प्रिज्म कोण है तब न्यूनतम विचलन कोण होगा :

Options :

5335431507. $\pi - 2A$

5335431508. $\pi - A$

5335431509. $\frac{\pi}{2} - 2A$

5335431510. $\frac{\pi}{2} - A$

Question Number : 46 Question Id : 533543422 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

A convex lens of focal length 40 cm forms an image of an extended source of light on a photoelectric cell. A current I is produced. The lens is replaced by another convex lens having the same diameter but focal length 20 cm. The photoelectric current now is :

Options :

5335431511. $\frac{I}{2}$

5335431512. I

5335431513. $2 I$

5335431514. $4 I$

Question Number : 46 Question Id : 533543422 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

40 सेमी फोकस दूरी का एक उत्तल लेंस एक प्रकाश विद्युत सेल पर किसी बृहद स्रोत का प्रतिबिम्ब बनाता है। जिससे धारा I उत्पन्न होती है। यदि लेंस को एक समान व्यास तथा 20 सेमी फोकस दूरी के दूसरे लेंस द्वारा बदल दिया जाता है। अब प्रकाश विद्युत धारा होगी :

Options :

5335431511. $\frac{I}{2}$

5335431512. I

5335431513. $2I$

5335431514. $4I$

Question Number : 47 Question Id : 533543423 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 radius of third stationary orbit of electron for Bohr's atom is R. The radius of fourth stationary orbit will be :

Options :

5335431515. $\frac{9}{16} R$

5335431516. $\frac{16}{9} R$

5335431517. $\frac{4}{3} R$

5335431518. $\frac{3}{4} R$

Question Number : 47 Question Id : 533543423 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

बोहर परमाणु के इलेक्ट्रॉन की तीसरी स्थाई कक्षा की त्रिज्या R है। चौथी स्थाई कक्षा की त्रिज्या होगी :

Options :

5335431515. $\frac{9}{16} R$

5335431516. $\frac{16}{9} R$

5335431517. $\frac{4}{3} R$

5335431518. $\frac{3}{4} R$

Question Number : 48 Question Id : 533543424 Question Type : MCQ Option Shuffling : Yes Is

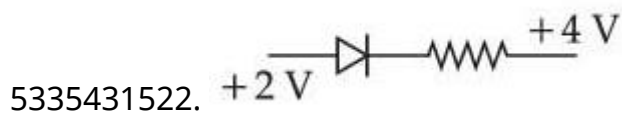
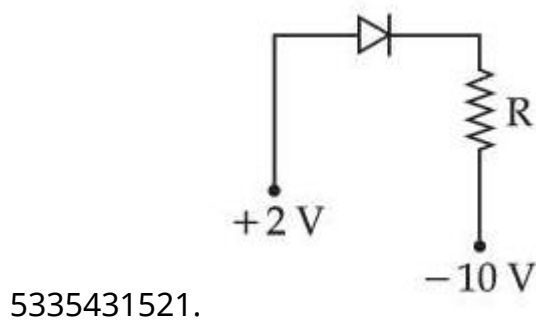
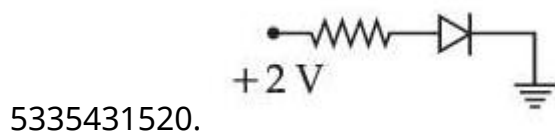
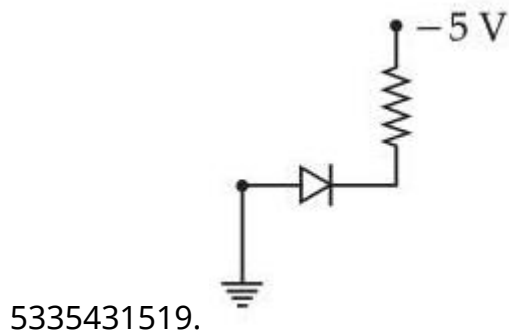
Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum

Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Which of the following circuits is reverse - biased ?

Options :



Question Number : 48 Question Id : 533543424 Question Type : MCQ Option Shuffling : Yes Is

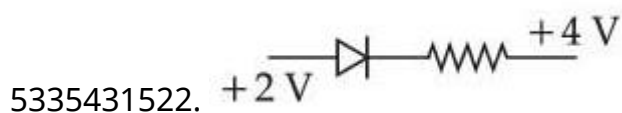
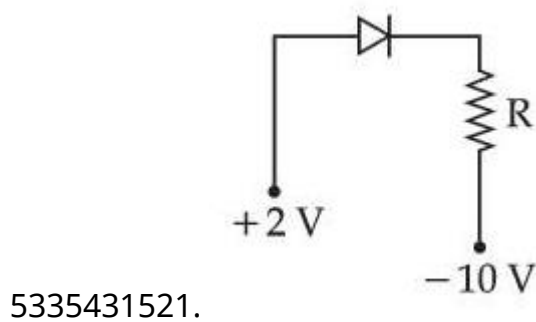
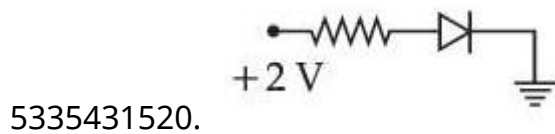
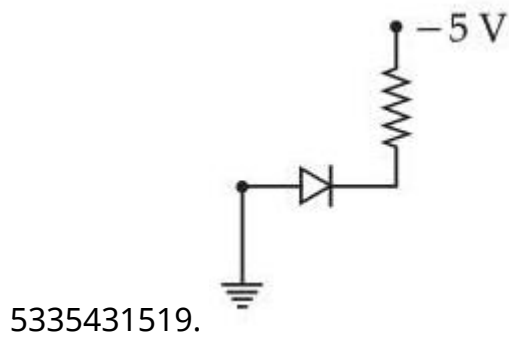
Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum

Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित परिपथों में कौन सा पाश्चादिक अभिनत है :

Options :



Question Number : 49 Question Id : 533543425 Question Type : MCQ Option Shuffling : Yes Is
Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum
Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Identify the physical quantity that cannot be measured using spherometer :

Options :

5335431523. Radius of curvature of convex surface

5335431524. Thickness of thin plates

5335431525. Specific rotation of liquids

5335431526. Radius of curvature of concave surface

Question Number : 49 Question Id : 533543425 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

वह कौन सी भौतिक राशि है जिसका मापन गोलाई मापी द्वारा नहीं किया जा सकता ?

Options :

5335431523. उत्तल सतह की वक्रता त्रिज्या

5335431524. पतली प्लेट की मोटाई

5335431525. द्रवों का विशिष्ट घूर्णन

5335431526. आवतल तल की वक्रता त्रिज्या

Question Number : 50 Question Id : 533543426 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 10 cm and radius $\sqrt{7} \times 10^{-4}$ m is connected across the right gap of a meter bridge. When a resistance of 4.5Ω is connected on the left gap by using a resistance box, the balance length is found to be at 60 cm from the left end. If the resistivity of the wire is $R \times 10^{-7} \Omega\text{m}$, then value of R is :

Options :

5335431527. 35

5335431528. 63

5335431529. 66

5335431530. 70

Question Number : 50 Question Id : 533543426 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 सेमी लम्बाई तथा $\sqrt{7} \times 10^{-4}$ मी त्रिज्या का एक तार मीटर सेतु के दाहिने अन्तराल से जोड़ा गया है। प्रतिरोध बॉक्स का प्रयोग करके 4.5Ω का एक प्रतिरोध बाँये अन्तराल में जोड़ा गया है तो बाँये सिरे से 60 सेमी की दूरी पर सन्तुलित लम्बाई प्राप्त होती है। यदि तार की प्रतिरोधकता $R \times 10^{-7} \Omega$ हो तो R का मान है :

Options :

5335431527. 35

5335431528. 63

5335431529. 66

5335431530. 70

Physics Section B

Section Id :	53354321
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 :	53354321
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 51 Question Id : 533543427 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 4 Wrong Marks : 1

A particle starts from origin at $t=0$ with a velocity $5\hat{i}$ m/s and moves in x - y plane under action of a force which produces a constant acceleration of $(3\hat{i} + 2\hat{j})$ m/s². If the x -coordinate of the particle at that instant is 84 m, then the speed of the particle at this time is $\sqrt{\alpha}$ m/s. The value of α is _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 51 **Question Id :** 533543427 **Question Type :** SA **Calculator :** None **Response**

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

Correct Marks : 4 **Wrong Marks :** 1

$t=0$ पर एक कण मूल बिन्दु से $5\hat{i}$ मी/से के वेग से गति प्रारम्भ करता है तथा एक बल के अन्तर्गत x - y तल में गति करता है जो $(3\hat{i} + 2\hat{j})$ मी/से² का एक नियत त्वरण उत्पन्न करता है। यदि किसी क्षण कण का x -निर्देशांक 84 मी हो तब उस समय कण की चाल $\sqrt{\alpha}$ मी/से है। α का मान _____ है।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 52 **Question Id :** 533543428 **Question Type :** SA **Calculator :** None **Response**

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

Correct Marks : 4 Wrong Marks : 1

Four particles each of mass 1 kg are placed at four corners of a square of side 2 m. Moment of inertia of system about an axis perpendicular to its plane and passing through one of its vertex is _____ kgm^2 .

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 52 Question Id : 533543428 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

1 किग्रा द्रव्यमान के चार कणों को 2 मी भुजा के एक वर्ग के कोनों पर रखा गया है। इसके एक कोने (शिखर) से तथा इसके तल के लम्बवत गुजरने वाली अक्ष के परितः निकाय का जड़त्व आघूर्ण _____ किग्रा.मी² है।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 53 Question Id : 533543429 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

If average depth of an ocean is 4000 m and the bulk modulus of water is $2 \times 10^9 \text{ Nm}^{-2}$, then fractional compression $\frac{\Delta V}{V}$ of water at the bottom of ocean is $\alpha \times 10^{-2}$. The value of α is _____. (Given, $g = 10 \text{ ms}^{-2}$, $\rho = 1000 \text{ kg m}^{-3}$)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 53 **Question Id :** 533543429 **Question Type :** SA **Calculator :** None **Response**

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

Correct Marks : 4 **Wrong Marks :** 1

यदि समुद्र की औसत गहराई 4000 मी तथा पानी का आयतन प्रत्यास्थता गुणांक $2 \times 10^9 \text{ Nm}^{-2}$ है तब समुद्र के तल पर पानी के आंशिक संपीड़न $\left(\frac{\Delta V}{V}\right)$ का मान $\alpha \times 10^{-2}$ है। α का मान _____ है।

(दिया है, $g = 10 \text{ मी से}^{-2}$, $\rho = 1000 \text{ किग्रा/मी}^3$)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 54 **Question Id :** 533543430 **Question Type :** SA **Calculator :** None **Response**

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

Correct Marks : 4 **Wrong Marks :** 1

A particle executes simple harmonic motion with an amplitude of 4 cm. At the mean position, velocity of the particle is 10 cm/s. The distance of the particle from the mean position when its speed becomes 5 cm/s is $\sqrt{\alpha}$ cm, where $\alpha =$ _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 54 Question Id : 533543430 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

एक कण 4 सेमी आयाम के साथ सरल अवर्त गति करता है। मध्यमान स्थिति में कण का वेग 10 सेमी/से है। इसकी चाल 5 सेमी/से होने पर मध्यमान स्थिति से कण की दूरी $\sqrt{\alpha}$ सेमी है, जहाँ $\alpha =$ _____ ।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 55 Question Id : 533543431 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

A thin metallic wire having cross sectional area of 10^{-4} m^2 is used to make a ring of radius 30 cm. A positive charge of $2\pi \text{ C}$ is uniformly distributed over the ring, while another positive charge of 30 pC is kept at the centre of the ring. The tension in the ring is _____ N; provided that the ring does not get deformed (neglect the influence of gravity).

$$\left(\text{given, } \frac{1}{4\pi\epsilon_0} = 9 \times 10^9 \text{ SI units} \right)$$

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 55 **Question Id :** 533543431 **Question Type :** SA **Calculator :** None **Response**

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

Correct Marks : 4 **Wrong Marks :** 1

10^{-4} m^2 अनुप्रस्थ परिच्छेद क्षेत्रफल वाले एक धातु के पतले तार का प्रयोग करके 30 सेमी त्रिज्या का एक छल्ला (रिंग) बनाया गया है। $2\pi \text{ C}$ के एक आवेश को छल्ले पर एक समान रूप से वितरित किया गया है तथा 30 pC का दूसरा आवेश छल्ले के केन्द्र पर रखा गया है। छल्ले में तनाव _____ N है जबकि छल्ले का आकार अपरिवर्तित रहता है (गुरुत्व का प्रभाव नगण्य मान कर)।

$$\left(\text{यदि } \frac{1}{4\pi\epsilon_0} = 9 \times 10^9 \text{ SI मात्रक} \right)$$

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

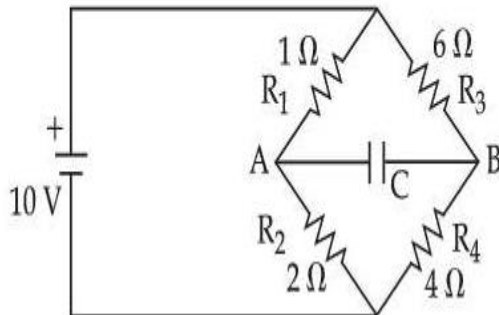
Question Number : 56 Question Id : 533543432 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

The charge accumulated on the capacitor connected in the following circuit is _____ μC .

(Given $C = 150 \mu\text{F}$)



Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

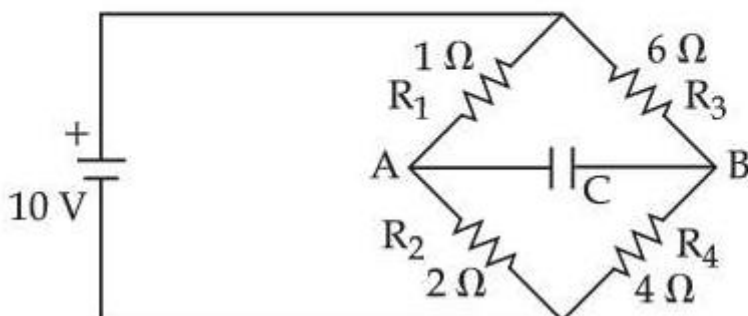
Question Number : 56 Question Id : 533543432 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित परिपथ में संधारित पर संचित आवेश _____ μC है।

(दिया है, $C = 150 \mu\text{F}$)



Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

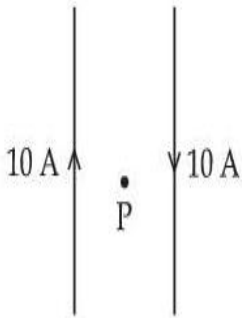
1

Question Number : 57 Question Id : 533543433 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

Two long, straight wires carry equal currents in opposite directions as shown in figure. The separation between the wires is 5.0 cm. The magnitude of the magnetic field at a point P midway between the wires is _____ μT . (Given : $\mu_0 = 4\pi \times 10^{-7} \text{ TmA}^{-1}$)



Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

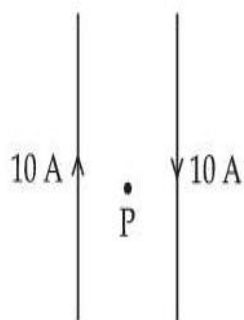
Question Number : 57 Question Id : 533543433 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

प्रदर्शित चित्र में दो लम्बे सीधे तारों में समान धारा विपरीत दिशा में प्रवाहित होती है। तारों के बीच की दूरी 5.0 सेमी है। तारों के मध्य एक बिन्दु P पर चुम्बकीय क्षेत्र का परिमाण _____ μT है।

(दिया है : $\mu_0 = 4\pi \times 10^{-7} \text{ TmA}^{-1}$)



Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 58 **Question Id :** 533543434 **Question Type :** SA **Calculator :** None **Response**

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

Correct Marks : 4 **Wrong Marks :** 1

Two coils have mutual inductance 0.002 H. The current changes in the first coil according to the relation $i = i_0 \sin \omega t$, where $i_0 = 5\text{A}$ and $\omega = 50\pi \text{ rad/s}$. The maximum value of emf in the second

coil is $\frac{\pi}{\alpha} \text{ V}$. The value of α is _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 58 Question Id : 533543434 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

दो कुंडलियों का पारस्परिक प्रेरकत्व 0.002 H है। प्रथम कुंडली में धारा $i = i_0 \sin \omega t$ संबंध द्वारा परिवर्तित होती है, जहाँ

$i_0 = 5 \text{ A}$ तथा $\omega = 50 \pi \text{ rad/s}$ । द्वितीय कुंडली में वि.वा. बल का अधिकतम मान $\frac{\pi}{\alpha} \text{ V}$ है। α का मान _____ है।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

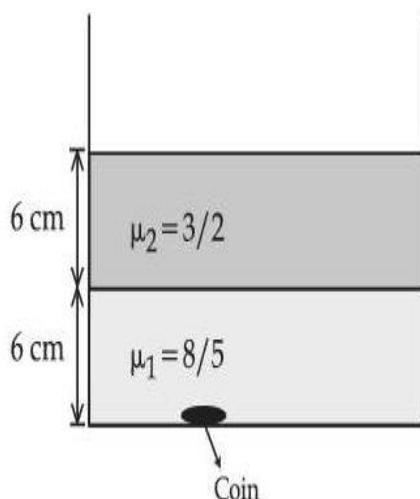
1

Question Number : 59 Question Id : 533543435 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

Two immiscible liquids of refractive indices $\frac{8}{5}$ and $\frac{3}{2}$ respectively are put in a beaker as shown in the figure. The height of each column is 6 cm . A coin is placed at the bottom of the beaker. For near normal vision, the apparent depth of the coin is $\frac{\alpha}{4} \text{ cm}$. The value of α is _____.



Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

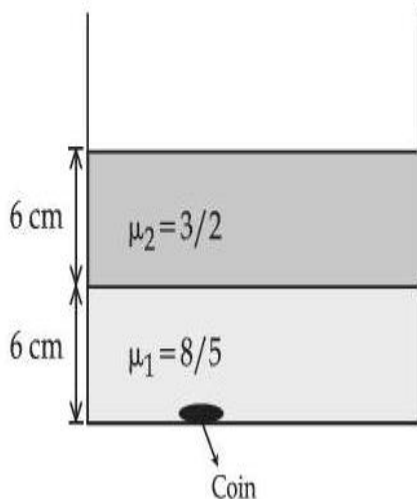
1

Question Number : 59 **Question Id :** 533543435 **Question Type :** SA **Calculator :** None **Response**

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

Correct Marks : 4 **Wrong Marks :** 1

क्रमशः $\frac{8}{5}$ तथा $\frac{3}{2}$ अपवर्तनांक के दो अघुलनीय द्रवों को प्रदर्शित चित्र के अनुसार एक बीकर में रखा गया है। प्रत्येक स्तर की ऊँचाई 6 सेमी है। एक सिक्के को बीकर की तली पर रखा गया है। निकटतम अभिलम्बित दृश्य के लिए सिक्के की आभासी गहराई $\frac{\alpha}{4}$ सेमी है। α का मान _____ है।



Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 60 Question Id : 533543436 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

In a nuclear fission process, a high mass nuclide ($A \approx 236$) with binding energy 7.6 MeV/Nucleon dissociated into middle mass nuclides ($A \approx 118$), having binding energy of 8.6 MeV/Nucleon. The energy released in the process would be _____ MeV.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 60 Question Id : 533543436 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

एक नाभिकीय विखण्डन प्रक्रिया में प्रति न्यूक्लियॉन 7.6 MeV बन्धन ऊर्जा का एक उच्च द्रव्यमान न्यूक्लाइड ($A \approx 236$) 8.6 MeV प्रति न्यूक्लियॉन बन्धन ऊर्जा वाले दो मध्यम द्रव्यमान ($A \approx 118$) के न्यूक्लाइड में विखण्डित होता है। इस प्रक्रिया में उत्पन्न ऊर्जा _____ MeV होगी।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Chemistry Section A

Section Id :	53354322
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 :	53354322
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 61 Question Id : 533543437 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

Choose the polar molecule from the following :

Options :

5335431541. CCl_4

5335431542. CO_2

5335431543. CHCl_3

5335431544. $\text{CH}_2=\text{CH}_2$

Question Number : 61 Question Id : 533543437 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित में से ध्रुवीय अणु को चुनिए :

Options :

5335431541. CCl_4

5335431542. CO_2

5335431543. CHCl_3

5335431544. $\text{CH}_2=\text{CH}_2$

Question Number : 62 Question Id : 533543438 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 solution of two miscible liquids showing negative deviation from Raoult's law will have :

Options :

5335431545. decreased vapour pressure, increased boiling point

5335431546. increased vapour pressure, increased boiling point

5335431547. decreased vapour pressure, decreased boiling point

5335431548. increased vapour pressure, decreased boiling point

Question Number : 62 Question Id : 533543438 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

राउल्ट नियम से ऋणात्मक विचलन दर्शाने वाले दो मिश्रणीय द्रवों वाले विलयन का होगा :

Options :

5335431545. कम वाष्प दाब, अधिक क्वथनांक

5335431546. अधिक वाष्प दाब, अधिक क्वथनांक

5335431547. कम वाष्प दाब, कम क्वथनांक

5335431548. अधिक वाष्प दाब, कम क्वथनांक

Question Number : 63 Question Id : 533543439 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) : Aqueous solution of ammonium carbonate is basic.

Statement (II) : Acidic/basic nature of salt solution of a salt of weak acid and weak base depends on K_a and K_b value of acid and the base forming it.

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

Options :

5335431549. Both **Statement I** and **Statement II** are correct

5335431550. Both **Statement I** and **Statement II** are incorrect

5335431551. **Statement I** is correct but **Statement II** is incorrect

5335431552. **Statement I** is incorrect but **Statement II** is correct

Question Number : 63 Question Id : 533543439 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) : अमोनियम कार्बोनेट का जलीय विलयन क्षारीय होता है।

कथन (II) : दुर्बल अम्ल और दुर्बल क्षारक के लवण के विलयन की अम्लीय/क्षारीय प्रकृति, लवण को बनाने वाले अम्ल और क्षार के K_a और K_b मानों पर निर्भर करती है।

ऊपर दिए गए कथनों के संदर्भ में , नीचे दिए गए विकल्पों में सही उत्तर चुनिए :

Options :

5335431549. **कथन I और कथन II दोनों सत्य हैं।**

5335431550. कथन I और कथन II दोनों असत्य हैं।

5335431551. कथन I सत्य है परंतु कथन II असत्य है।

5335431552. कथन I असत्य है परंतु कथन II सत्य है।

Question Number : 64 Question Id : 533543440 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 $4f$ and $5f$ - series of elements are placed separately in the Periodic table to preserve the principle of classification.

Statement (II) : s-block elements can be found in pure form in nature.

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

Options :

5335431553. Both **Statement I** and **Statement II** are true

5335431554. Both **Statement I** and **Statement II** are false

5335431555. **Statement I** is true but **Statement II** is false

5335431556. **Statement I** is false but **Statement II** is true

Question Number : 64 Question Id : 533543440 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: वर्गीकरण के सिद्धांत को संरक्षित रखने के लिए आवर्त सारणी में $4f$ और $5f$ श्रेणियों के तत्वों को अलग-अलग रखा गया है।

कथन II: s -ब्लॉक के तत्व प्रकृति में शुद्ध रूप में पाए जा सकते हैं।

ऊपर दिए गए कथनों के संदर्भ में, नीचे दिए गए विकल्पों में सही उत्तर चुनिए :

Options :

5335431553. कथन I और कथन II दोनों सत्य हैं।

5335431554. कथन I और कथन II दोनों असत्य हैं।

5335431555. कथन I सत्य है परंतु कथन II असत्य है।

5335431556. कथन I असत्य है परंतु कथन II सत्य है।

Question Number : 65 Question Id : 533543441 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

Element not showing variable oxidation state is :

Options :

5335431557. Fluorine

5335431558. Chlorine

5335431559. Bromine

5335431560. Iodine

Question Number : 65 Question Id : 533543441 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

परिवर्तनशील ऑक्सीकरण अवस्था न प्रदर्शित करने वाला तत्व है :

Options :

5335431557. फ्लुओरीन

5335431558. क्लोरीन

5335431559. ब्रोमीन

5335431560. आयोडीन

Question Number : 66 Question Id : 533543442 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) : Melting point of Boron (2453 K) is unusually high in group 13 elements.

Reason (R) : Solid Boron has very strong crystalline lattice.

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

Options :

5335431561. Both (A) and (R) are correct and (R) is the correct explanation of (A)

5335431562. Both (A) and (R) are correct but (R) is **not** the correct explanation of (A)

5335431563. (A) is true but (R) is false

5335431564. (A) is false but (R) is true

Question Number : 66 Question Id : 533543442 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 : एक को **अभिकथन (A)** और दूसरे को **कारण (R)** द्वारा दर्शाया गया है :

अभिकथन (A) : समूह 13 तत्वों में बोरॉन का गलनांक असामान्य रूप से उच्च (2453 K) होता है।

कारण (R) : ठोस बोरॉन का प्रबल क्रिस्टलीय जालक होता है।

ऊपर दिए गए कथनों के संदर्भ में, निम्नलिखित विकल्पों में **सही** उत्तर चुनिए :

Options :

5335431561. (A) और (R) दोनों सत्य हैं और (R), (A) की सही व्याख्या है।

5335431562. (A) और (R) दोनों सत्य हैं और (R), (A) की सही व्याख्या नहीं है।

5335431563. (A) सत्य है परंतु (R) असत्य है।

5335431564. (A) असत्य है परंतु (R) सत्य है।

Question Number : 67 Question Id : 533543443 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 electronic configuration would be associated with the highest magnetic moment ?

Options :

5335431565. [Ar] 3d⁸

5335431566. [Ar] 3d⁶

5335431567. [Ar] 3d³

5335431568. [Ar] 3d⁷

Question Number : 67 Question Id : 533543443 Question Type : MCQ Option Shuffling : Yes Is

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

Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित में से कौन-सा इलेक्ट्रॉनिक विन्यास उच्चतम चुंबकीय आघूर्ण से संबंधित होगा ?

Options :

5335431565. $[\text{Ar}] 3d^8$

5335431566. $[\text{Ar}] 3d^6$

5335431567. $[\text{Ar}] 3d^3$

5335431568. $[\text{Ar}] 3d^7$

Question Number : 68 Question Id : 533543444 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 electronic configuration for Neodymium is :

[Atomic Number for Neodymium 60]

Options :

5335431569. $[\text{Xe}] 4f^1 5d^1 6s^2$

5335431570. $[\text{Xe}] 4f^4 6s^2$

5335431571. $[\text{Xe}] 4f^6 6s^2$

5335431572. $[\text{Xe}] 5f^7 7s^2$

Question Number : 68 Question Id : 533543444 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

निओडाइमियम का इलेक्ट्रॉनिक विन्यास होता है :
[निओडाइमियम का परमाणु क्रमांक 60 है]

Options :

5335431569. $[\text{Xe}] 4f^1 5d^1 6s^2$

5335431570. $[\text{Xe}] 4f^4 6s^2$

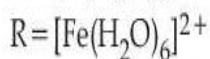
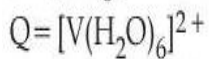
5335431571. $[\text{Xe}] 4f^6 6s^2$

5335431572. $[\text{Xe}] 5f^7 7s^2$

Question Number : 69 Question Id : 533543445 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 complex ions



The correct order of the complex ions, according to their spin only magnetic moment values (in B.M.) is :

Options :

5335431573. $R < Q < P$

5335431574. $Q < R < P$

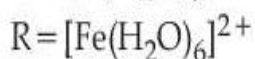
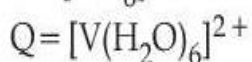
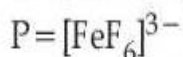
5335431575. $Q < P < R$

5335431576. $R < P < Q$

Question Number : 69 Question Id : 533543445 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित संकुल आयनों पर विचार कीजिए :



संकुल आयनों का, उनके प्रचक्रण मात्र चुंबकीय आघूर्ण मानों (B.M. में) के अनुसार, सही क्रम है :

Options :

5335431573. $R < Q < P$

5335431574. $Q < R < P$

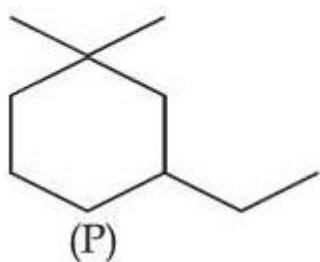
5335431575. $Q < P < R$

5335431576. $R < P < Q$

Question Number : 70 Question Id : 533543446 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

IUPAC name of following compound (P) is :



Options :

5335431577. 1,1-Dimethyl-3-ethylcyclohexane

5335431578. 1-Ethyl-5,5-dimethylcyclohexane

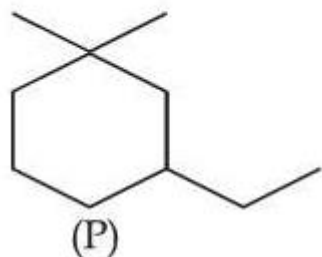
5335431579. 1-Ethyl-3,3-dimethylcyclohexane

5335431580. 3-Ethyl-1,1-dimethylcyclohexane

Question Number : 70 Question Id : 533543446 Question Type : MCQ Option Shuffling : Yes Is
Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum
Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित यौगिक (P) का आई.यू.पी.ए.सी. नाम है :



Options :

5335431577. 1, 1-डाइमेथिल-3-एथिल साइक्लोहेक्सेन

5335431578. 1-एथिल-5,5-डाइमेथिल साइक्लोहेक्सेन

5335431579. 1-एथिल-3,3-डाइमेथिल साइक्लोहेक्सेन

5335431580. 3-एथिल-1,1-डाइमेथिल साइक्लोहेक्सेन

Question Number : 71 Question Id : 533543447 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

Cyclohexene  is _____ type of an organic compound.

Options :

5335431581. Acyclic

5335431582. Alicyclic

5335431583. Benzenoid aromatic

5335431584. Benzenoid non-aromatic

Question Number : 71 Question Id : 533543447 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

साइक्लोहेक्सीन,  एक _____ प्रकार का कार्बनिक यौगिक है।

Options :

5335431581. अचक्रीय

5335431582. ऐलिसाइकलिक

5335431583. बेन्जीनायॅड ऐरोमैटिक

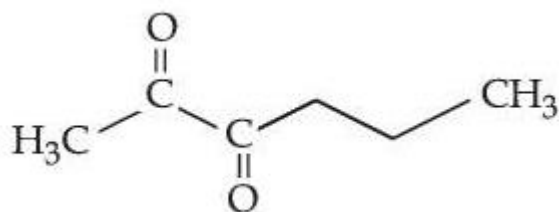
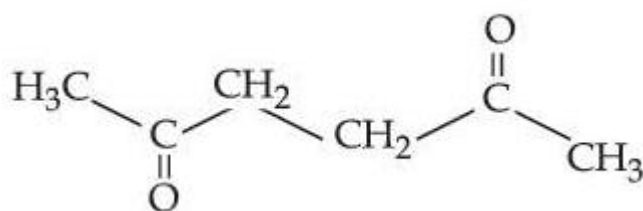
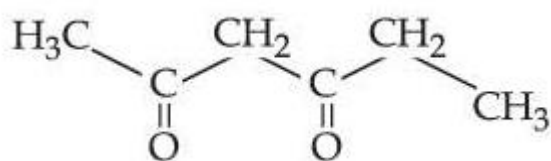
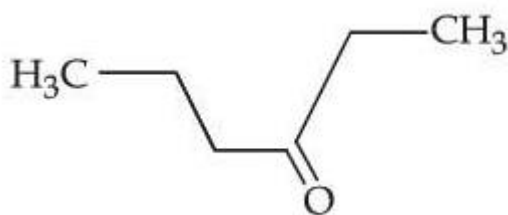
5335431584. बेन्जीनायॅड नॉन-ऐरोमैटिक

Question Number : 72 Question Id : 533543448 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 has highly acidic hydrogen ?

Options :

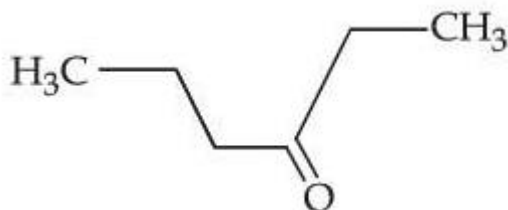


Question Number : 72 Question Id : 533543448 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

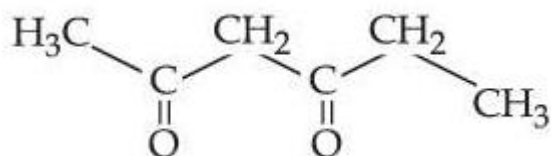
Correct Marks : 4 Wrong Marks : 1

निम्नलिखित में से किसमें उच्च अम्लीय हाइड्रोजन उपस्थित है ?

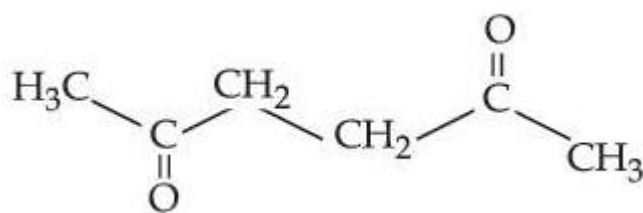
Options :



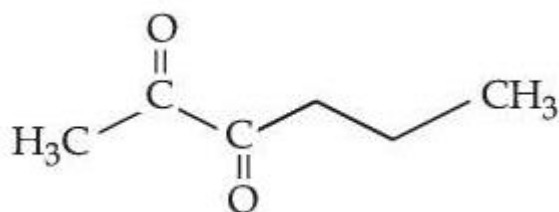
5335431585.



5335431586.



5335431587.



5335431588.

Question Number : 73 Question Id : 533543449 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

The correct statement regarding nucleophilic substitution reaction in a chiral alkyl halide is :

Options :

Racemisation occurs in both S_N1 and S_N2 reactions.

5335431589.

5335431590. Retention occurs in S_N1 reaction and inversion occurs in S_N2 reaction.

5335431591. Racemisation occurs in S_N1 reaction and retention occurs in S_N2 reaction.

5335431592. Racemisation occurs in S_N1 reaction and inversion occurs in S_N2 reaction.

Question Number : 73 Question Id : 533543449 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 किरल ऐल्कल हैलाइड में नाभिकस्नेही प्रतिस्थापन अभिक्रिया के संदर्भ में सही कथन है :

Options :

5335431589. रेसिमिकरण, S_N1 और S_N2 दोनों अभिक्रियाओं में होता है।

5335431590. S_N1 अभिक्रिया में परिवर्तन नहीं होता है और S_N2 अभिक्रिया में प्रतीपन होता है।

5335431591. S_N1 अभिक्रिया में रेसिमिकरण होता है और S_N2 अभिक्रिया में परिवर्तन नहीं होता है।

5335431592. S_N1 अभिक्रिया में रेसिमिकरण होता है और S_N2 अभिक्रिया में प्रतीपन होता है।

Question Number : 74 Question Id : 533543450 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) : p-nitrophenol is more acidic than m-nitrophenol and o-nitrophenol.

Statement (II) : Ethanol will give immediate turbidity with Lucas reagent.

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

Options :

5335431593. Both **Statement I** and **Statement II** are true

5335431594. Both **Statement I** and **Statement II** are false

5335431595. **Statement I** is true but **Statement II** is false

5335431596. **Statement I** is false but **Statement II** is true

Question Number : 74 Question Id : 533543450 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 : पैरा-नाइट्रोफ़ीनॉल, मेटा-और ऑर्थो-नाइट्रोफ़ीनॉल से अधिक अम्लीय होती है।

कथन II : ऐथेनॉल, ल्यूकैस अभिकर्मक के साथ तुरंत धुंधलापन दर्शाता है।

ऊपर दिए गए कथनों के संदर्भ में , नीचे दिए गए विकल्पों में **सही** उत्तर चुनिए :

Options :

5335431593. **कथन I और कथन II दोनों सत्य हैं।**

5335431594. कथन I और कथन II दोनों असत्य हैं।

5335431595. कथन I सत्य है परंतु कथन II असत्य है।

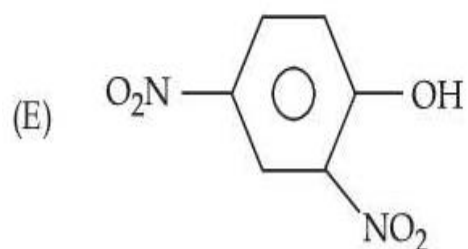
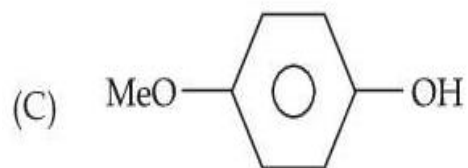
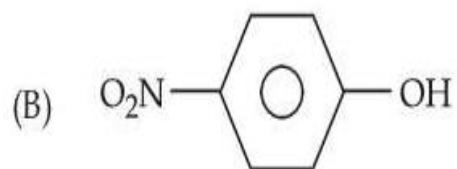
5335431596. कथन I असत्य है परंतु कथन II सत्य है।

Question Number : 75 Question Id : 533543451 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 ascending order of acidity of $-OH$ group in the following compounds is :

(A) $Bu-OH$



Choose the **correct** answer from the options given below :

Options :

5335431597. $(A) < (C) < (D) < (B) < (E)$

5335431598. $(C) < (D) < (B) < (A) < (E)$

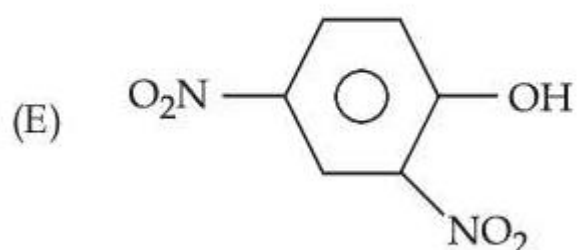
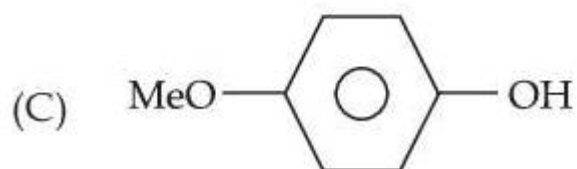
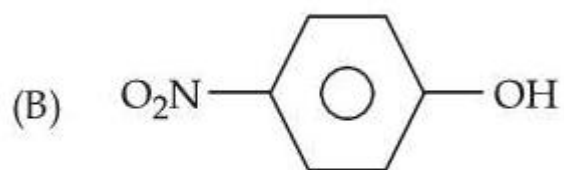
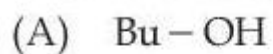
5335431599. $(A) < (D) < (C) < (B) < (E)$

5335431600. $(C) < (A) < (D) < (B) < (E)$

**Question Number : 75 Question Id : 533543451 Question Type : MCQ Option Shuffling : Yes Is
Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum
Instruction Time : 0**

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित यौगिकों में $-OH$ समूह की अम्लता का बढ़ता क्रम है :



नीचे दिए गए विकल्पों से सही उत्तर चुनिए :

Options :

5335431597. (A) < (C) < (D) < (B) < (E)

5335431598. (C) < (D) < (B) < (A) < (E)

5335431599. (A) < (D) < (C) < (B) < (E)

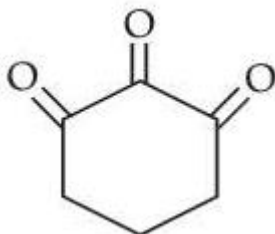
5335431600. (C) < (A) < (D) < (B) < (E)

Question Number : 76 Question Id : 533543452 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

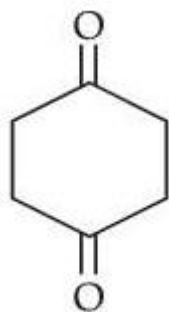
Correct Marks : 4 Wrong Marks : 1

Highest enol content will be shown by :

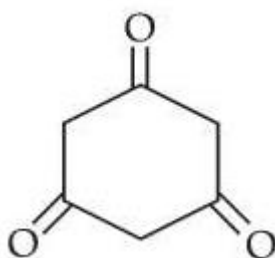
Options :



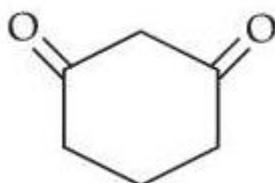
5335431601.



5335431602.



5335431603.



5335431604.

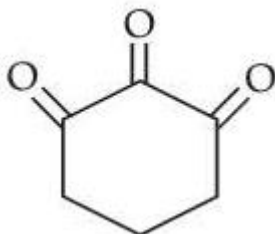
Question Number : 76 Question Id : 533543452 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum

Instruction Time : 0

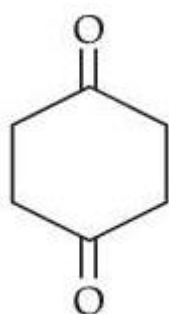
Correct Marks : 4 Wrong Marks : 1

सबसे अधिक ईनॉल की मात्रा प्रदर्शित करेगा :

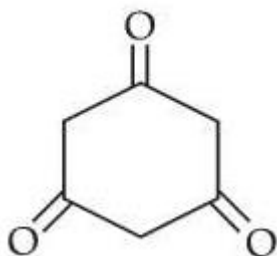
Options :



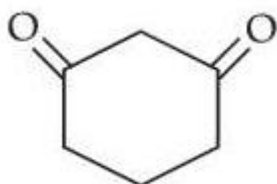
5335431601.



5335431602.



5335431603.



5335431604.

Question Number : 77 Question Id : 533543453 Question Type : MCQ Option Shuffling : Yes Is

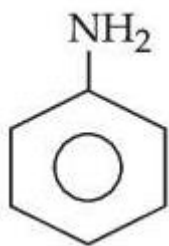
Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum

Instruction Time : 0

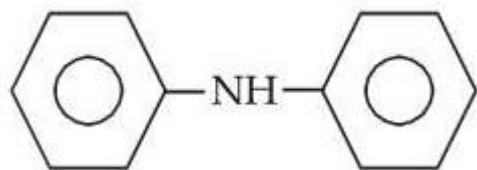
Correct Marks : 4 Wrong Marks : 1

Which of the following is strongest Bronsted base ?

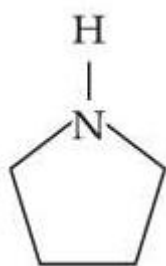
Options :



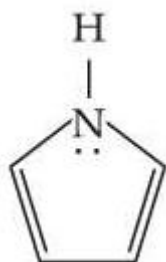
5335431605.



5335431606.



5335431607.



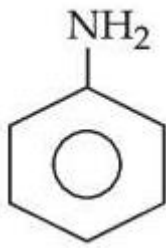
5335431608.

Question Number : 77 Question Id : 533543453 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

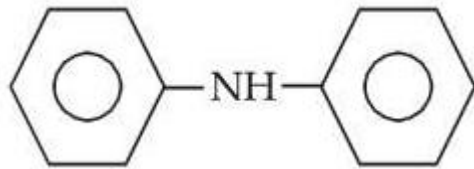
Correct Marks : 4 Wrong Marks : 1

निम्नलिखित में से कौन-सा प्रबलतम ब्रन्सटेड क्षारक है ?

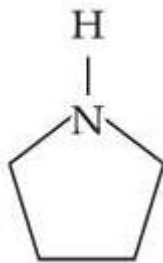
Options :



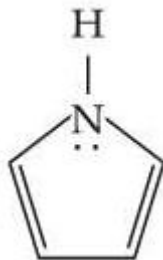
5335431605.



5335431606.



5335431607.



5335431608.

Question Number : 78 Question Id : 533543454 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 nucleotides are joined together by a linkage known as :

Options :

5335431609. Disulphide linkage

5335431610. Glycosidic linkage

5335431611. Phosphodiester linkage

5335431612. Peptide linkage

Question Number : 78 Question Id : 533543454 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

दो न्यूक्लियोटाइड आपस में जिस बंध द्वारा जुड़े होते हैं, वह कहलाता है :

Options :

5335431609. डाइसल्फाइड बंध

5335431610. ग्लाइकोसाइडी बंध

5335431611. फॉस्फोडाइएस्टर बंध

5335431612. पेप्टाइड बंध

Question Number : 79 Question Id : 533543455 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

Yellow compound of lead chromate gets dissolved on treatment with hot NaOH solution. The product of lead formed is a :

Options :

5335431613. Tetraanionic complex with coordination number six

5335431614. Dianionic complex with coordination number four

5335431615. Dianionic complex with coordination number six

5335431616. Neutral complex with coordination number four

Question Number : 79 Question Id : 533543455 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

लैड क्रोमेट का पीला यौगिक गरम NaOH विलयन के साथ उपचार द्वारा घुल जाता है। लैड का बना उत्पाद होता है :

Options :

5335431613. उपसहसंयोजन संख्या छः वाला टेट्राऋणायनी संकुल

5335431614. उपसहसंयोजन संख्या चार वाला द्वि-ऋणायनी संकुल

5335431615. उपसहसंयोजन संख्या छः वाला द्वि-ऋणायनी संकुल

उपसहसंयोजन संख्या चार वाला एक उदासीन संकुल

5335431616.

Question Number : 80 Question Id : 533543456 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

NaCl reacts with conc. H_2SO_4 and $\text{K}_2\text{Cr}_2\text{O}_7$ to give reddish fumes (B), which react with NaOH to give yellow solution (C). (B) and (C) respectively are :

Options :

5335431617. CrO_2Cl_2 , KHSO_4

5335431618. CrO_2Cl_2 , Na_2CrO_4

5335431619. CrO_2Cl_2 , $\text{Na}_2\text{Cr}_2\text{O}_7$

5335431620. Na_2CrO_4 , CrO_2Cl_2

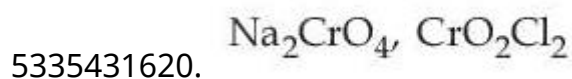
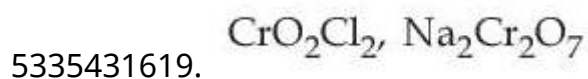
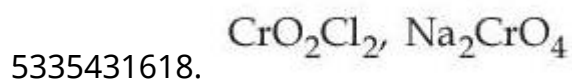
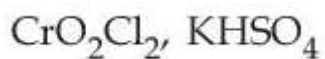
Question Number : 80 Question Id : 533543456 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

NaCl, सांद्र H_2SO_4 और $\text{K}_2\text{Cr}_2\text{O}_7$ के साथ अभिक्रिया द्वारा रक्ताभ धूम (B) देता है जो NaOH के साथ अभिक्रिया द्वारा पीला विलयन (C) देते हैं। (B) और (C) क्रमशः हैं :

Options :

5335431617.



Chemistry Section B

Section Id :	53354323
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 :	53354323
Question Shuffling Allowed :	Yes
Is Section Default? :	null

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

Correct Marks : 4 Wrong Marks : 1

Mass of methane required to produce 22 g of CO_2 after complete combustion is _____ g.

(Given Molar mass in g mol^{-1} C=12.0

H=1.0

O=16.0)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 81 Question Id : 533543457 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

पूर्ण दहन के पश्चात् CO_2 के 22 g उत्पादित करने के लिए आवश्यक मेथेन का द्रव्यमान _____ g है।

(दिया गया है : g mol^{-1} में C=12.0

मोलर H=1.0

द्रव्यमान O=16.0)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 82 Question Id : 533543458 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 electrons present in all the completely filled subshells having $n=4$ and $s = +\frac{1}{2}$ is

_____.

(Where n = principal quantum number and
 s = spin quantum number)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 82 Question Id : 533543458 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

$n=4$ और $s = +\frac{1}{2}$ वाले सभी पूर्णतः भरे उपकोशों में उपस्थित इलेक्ट्रानों की संख्या _____ है।

(जहाँ n = मुख्य क्वांटम संख्या और s = प्रचक्रण क्वांटम संख्या)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 83 Question Id : 533543459 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

Sum of bond order of CO and NO^+ is _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 83 Question Id : 533543459 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

CO और NO^+ के आबंध क्रमों का योग _____ है।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 84 Question Id : 533543460 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

If three moles of an ideal gas at 300 K expand isothermally from 30 dm^3 to 45 dm^3 against a constant opposing pressure of 80 kPa, then the amount of heat transferred is _____ J.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 84 **Question Id :** 533543460 **Question Type :** SA **Calculator :** None **Response**

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

Correct Marks : 4 **Wrong Marks :** 1

यदि किसी आदर्श गैस के तीन मोल 300 K पर 80 kPa के स्थिर विरोधी दाब के विपरीत 30 dm³ से 45 dm³ तक समतापीय रूप से प्रसरित हों, तो स्थानांतरित ऊष्मा की मात्रा _____ J है।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 85 **Question Id :** 533543461 **Question Type :** SA **Calculator :** None **Response**

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

Correct Marks : 4 **Wrong Marks :** 1

From the given list, the number of compounds with +4 oxidation state of Sulphur is _____.
SO₃, H₂SO₃, SOCl₂, SF₄, BaSO₄, H₂S₂O₇

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 85 Question Id : 533543461 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

दी गई सूची से, सल्फर की +4 ऑक्सीकरण अवस्था वाले यौगिकों की संख्या _____ है।

SO₃, H₂SO₃, SOCl₂, SF₄, BaSO₄, H₂S₂O₇

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 86 Question Id : 533543462 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

The mass of silver (Molar mass of Ag : 108 gmol⁻¹) displaced by a quantity of electricity which displaces 5600 mL of O₂ at S.T.P. will be _____ g.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 86 Question Id : 533543462 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

एस.टी.पी. पर O_2 के 5600 mL विस्थापित करने वाली विद्युत की मात्रा द्वारा विस्थापित सिल्वर (Ag का मोलर द्रव्यमान : 108 g mol^{-1}) का द्रव्यमान _____ g होगा।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

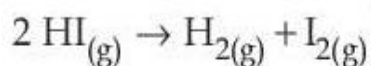
1

Question Number : 87 Question Id : 533543463 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 following data for the given reaction



	1	2	3
HI (mol L^{-1})	0.005	0.01	0.02
Rate ($\text{mol L}^{-1}\text{s}^{-1}$)	7.5×10^{-4}	3.0×10^{-3}	1.2×10^{-2}

The order of the reaction is _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

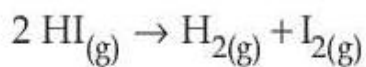
1

Question Number : 87 Question Id : 533543463 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

दी गई अभिक्रिया के लिए निम्नलिखित आँकड़ों पर विचार कीजिए :



	1	2	3
HI (mol L ⁻¹)	0.005	0.01	0.02
Rate (mol L ⁻¹ s ⁻¹)	7.5×10^{-4}	3.0×10^{-3}	1.2×10^{-2}

अभिक्रिया की कोटि _____ है।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 88 Question Id : 533543464 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

Among the following, total number of meta directing functional groups is _____.

(Integer based)

-OCH₃, -NO₂, -CN, -CH₃, -NHCOCH₃, -COR, -OH, -COOH, -Cl

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 88 Question Id : 533543464 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

नीचे दिए गए समूहों में से, मेटा-निर्देशात्मक प्रकार्यात्मक समूहों की कुल संख्या _____ है।

(पूर्णांक आधारित).

$-\text{OCH}_3$, $-\text{NO}_2$, $-\text{CN}$, $-\text{CH}_3$, $-\text{NHCOCH}_3$, $-\text{COR}$, $-\text{OH}$, $-\text{COOH}$, $-\text{Cl}$

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

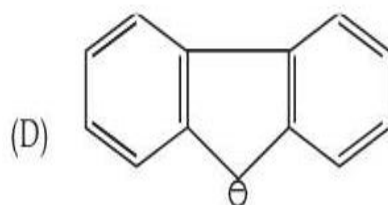
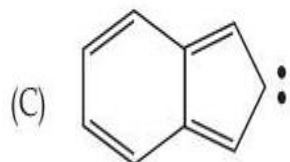
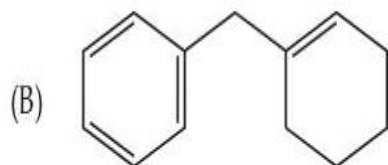
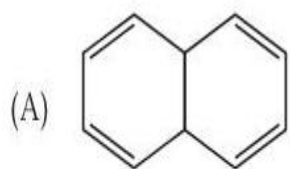
1

Question Number : 89 Question Id : 533543465 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

Among the given organic compounds, the total number of aromatic compounds is _____.



Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

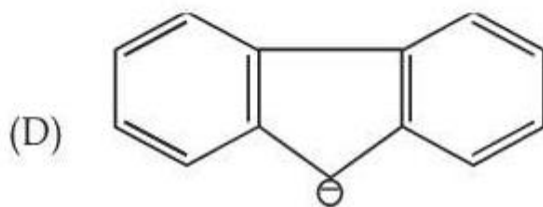
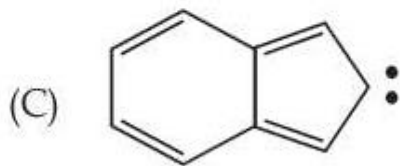
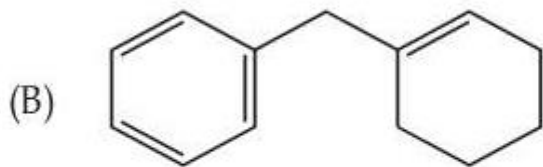
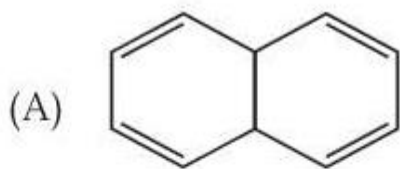
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Question Number : 89 **Question Id :** 533543465 **Question Type :** SA **Calculator :** None **Response**

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

Correct Marks : 4 **Wrong Marks :** 1

दिए गए कार्बनिक यौगिकों में, ऐरोमैटिक यौगिकों की कुल संख्या _____ है।



Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 90 **Question Id :** 533543466 **Question Type :** SA **Calculator :** None **Response**

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

Correct Marks : 4 **Wrong Marks :** 1

3-Methylhex-2-ene on reaction with HBr in presence of peroxide forms an addition product (A).
The number of possible stereoisomers for 'A' is _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Question Number : 90 Question Id : 533543466 Question Type : SA Calculator : None Response

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

Correct Marks : 4 Wrong Marks : 1

3-मेथिलहेक्स-2-ईन परॉक्साइड की उपस्थिति में HBr के साथ अभिक्रिया द्वारा एक संकलन उत्पाद (A) बनाती है। 'A' के संभव त्रिविम समावयवों की संख्या _____ है।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1