

National Testing Agency

Question Paper Name : 20S3
Subject Name : 20Jun2023 Shift3 Subject Combination 1
Creation Date : 2023-06-21 00:35:20
Duration : 180
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Display Marks: Yes

Chemistry

Group Number : 1
Group Id : 485584809
Group Maximum Duration : 60
Group Minimum Duration : 60
Show Attended Group? : No
Edit Attended Group? : No
Break time : 0
Group Marks : 200
Is this Group for Examiner? : No
Examiner permission : Cant View
Show Progress Bar? : No

Chemistry

Section Id : 485584929
Section Number : 1
Section type : Online
Mandatory or Optional : Mandatory
Number of Questions : 50
Number of Questions to be attempted : 40
Section Marks : 200
Enable Mark as Answered Mark for Review and Clear Response : Yes
Maximum Instruction Time : 0
Sub-Section Number : 1
Sub-Section Id : 4855842644
Question Shuffling Allowed : Yes
Is Section Default? : null

Question Number : 1 Question Id : 48558435766 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Silicon doped with electron elements of group-13 forms.

1. Conductor
2. Intrinsic semiconductor
3. p-type semi conductor
4. n-type semi conductor

Options :

485584143061. 1
485584143062. 2
485584143063. 3
485584143064. 4

Question Number : 1 Question Id : 48558435766 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

वर्ग-13 के तत्वों में इलेक्ट्रॉन युक्त सिलिकन अपमिश्रित करते हैं तो बनता है।

1. चालक
2. नैज अर्धचालक
3. p-प्रकार के अर्धचालक
4. n-प्रकार के अर्धचालक

Options :

485584143061. 1
485584143062. 2
485584143063. 3
485584143064. 4

Question Number : 2 Question Id : 48558435767 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Atoms of element B form hcp lattice and those of the element A occupy $\frac{2}{3}$ of octahedral voids. What is the formula of the compound formed by the element A and B?

1. A_3B_4
2. A_4B_3
3. AB
4. A_4B_5

Options :

485584143065. 1
485584143066. 2
485584143067. 3
485584143068. 4

Question Number : 2 Question Id : 48558435767 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

तत्व 'B' के परमाणु hcp जालक और तत्व A अष्टफलकीय रिक्तिकाओं का दो-तिहाई भाग अधिग्रहित करता है। तत्व 'A' और 'B' द्वारा बने वाले यौगिक का सूत्र बताइए ?

1. A_3B_4
2. A_4B_3
3. AB
4. A_4B_5

Options :

485584143065. 1
485584143066. 2
485584143067. 3
485584143068. 4

Question Number : 3 Question Id : 48558435768 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Which of the following is more reliable ?

1. % (w/v)
2. Molarity (M)
3. Molality (m)
4. Strength (S)

Options :

485584143069. 1
485584143070. 2
485584143071. 3
485584143072. 4

Question Number : 3 Question Id : 48558435768 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

निम्नलिखित में कौन-सी राशि अधिक उचित है ?

1. % (w/v)
2. मोलरता (M)
3. मोललता (m)
4. प्रबलता (S)

Options :

485584143069. 1
485584143070. 2
485584143071. 3
485584143072. 4

Question Number : 4 Question Id : 48558435769 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Match List I with List II

LIST I		LIST II	
A.	$K_2SO_4(aq)$ with 60 % dissociation	I.	$i = 3.7$
B.	$K_3[Fe(CN)_6](aq)$ with 90% dissociation	II.	$i = 1.8$
C.	$AlCl_3 (aq)$ with 80% dissociation	III.	$i = 2.2$
D.	$K_2HgI_4 (aq)$ with 40% dissociation	IV.	$i = 3.4$

Choose the correct answer from the options given below:

1. A-III, B-I, C-II, D-IV
2. A-I, B-III, C-IV, D-II
3. A-III, B-I, C-II, D-IV
4. A-III, B-I, C-IV, D-II

Options :

485584143073. 1
 485584143074. 2
 485584143075. 3
 485584143076. 4

Question Number : 4 Question Id : 48558435769 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

सूची I का सूची II के साथ मिलान कीजिए

सूची I		सूची II	
A.	जलीय K_2SO_4 का 60 % विघटन	I.	$i = 3.7$
B.	जलीय $K_3[Fe(CN)_6]$ का 90% विघटन	II.	$i = 1.8$
C.	जलीय $AlCl_3$ का 80% विघटन	III.	$i = 2.2$
D.	जलीय K_2HgI_4 का 40% विघटन	IV.	$i = 3.4$

नीचे दिये गये विकल्पों में सही उत्तर का चयन कीजिए :

1. A-III, B-I, C-II, D-IV
2. A-I, B-III, C-IV, D-II
3. A-III, B-I, C-II, D-IV
4. A-III, B-I, C-IV, D-II

Options :

485584143073. 1
 485584143074. 2

485584143075. 3
485584143076. 4

Question Number : 5 Question Id : 48558435770 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Calculate the mass of urea (NH_2CONH_2) required in making 2.5 kg of 0.25 molal aqueous solution.

1. 36.95 g
2. 37.5 g
3. 39 g
4. 35.95 g

Options :

485584143077. 1
485584143078. 2
485584143079. 3
485584143080. 4

Question Number : 5 Question Id : 48558435770 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

2.5 kg यूरिया (NH_2CONH_2) के 0.25 मोलल जलीय विलयन को बनाने के लिए आवश्यक यूरिया के द्रव्यमान की गणना कीजिए।

1. 36.95 g
2. 37.5 g
3. 39 g
4. 35.95 g

Options :

485584143077. 1
485584143078. 2
485584143079. 3
485584143080. 4

Question Number : 6 Question Id : 48558435771 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0



Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Decreasing order of reducing power of the given species as per their standard reduction potential is :

- A. -2.36
- B. +0.54
- C. +1.23
- D. -0.74
- E. + 1.81

Choose the correct answer from the options given below:

- 1. $A > D > E > B > C$
- 2. $A > D > B > C > E$
- 3. $E > C > A > B > D$
- 4. $E > C > B > D > A$

Options :

- 485584143081. 1
- 485584143082. 2
- 485584143083. 3
- 485584143084. 4

Question Number : 6 Question Id : 48558435771 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

दिए गए मानक अपचयन विभव के आधार पर स्पीशीज़ को उनकी घटती हुई अपचायक क्षमता का क्रम है :

- A. -2.36
- B. +0.54
- C. +1.23
- D. -0.74
- E. + 1.81

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए-

- 1. $A > D > E > B > C$
- 2. $A > D > B > C > E$
- 3. $E > C > A > B > D$
- 4. $E > C > B > D > A$

Options :

485584143081. 1
485584143082. 2
485584143083. 3
485584143084. 4

Question Number : 7 Question Id : 48558435772 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

A solution of CuSO_4 is electrolysed for 10 min with a current of 1.5 A. What is the mass of copper deposited at the cathode (molar mass of Cu = 63 g) ($1F = 96487\text{c}$).

1. 2.93 g
2. 3.4 g
3. 1.9 g
4. 0.2938 g

Options :

485584143085. 1
485584143086. 2
485584143087. 3
485584143088. 4

Question Number : 7 Question Id : 48558435772 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

CuSO_4 के एक विलयन के बीच 10 मिनट तक 1.5 A की धारा प्रवाहित करते हुए विद्युत अपघटन किया गया। कॉपर की कितनी मात्रा कैथोड पर निक्षेपित होगी ? (Cu का मोलर द्रव्यमान = 63 g) ($1F = 96487$ कूलॉम)

1. 2.93 g
2. 3.4 g
3. 1.9 g
4. 0.2938 g

Options :

485584143085. 1
485584143086. 2
485584143087. 3
485584143088. 4

Question Number : 8 Question Id : 48558435773 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

For the cell: $\text{Ni (s)} | \text{Ni}^{2+} (0.1\text{M}) || \text{Cu}^{2+} (0.1\text{M}) | \text{Cu(s)}$ the cell potential will increase when,

1. Ni^{2+} ion concentration is increased
2. Cu^{2+} ion concentration is decreased
3. Cu^{2+} ion concentration is increased
4. Temperature of the cell is decreased

Options :

- 485584143089. 1
- 485584143090. 2
- 485584143091. 3
- 485584143092. 4

Question Number : 8 Question Id : 48558435773 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

दी गई सेल : $\text{Ni (s)} | \text{Ni}^{2+} (0.1\text{M}) || \text{Cu}^{2+} (0.1\text{M}) | \text{Cu(s)}$ का सेल विभव बढ़ जाएगा जब

1. Ni^{2+} आयन की सांद्रता बढ़ जाएगी।
2. Cu^{2+} आयन की सांद्रता घट जाएगी।
3. Cu^{2+} आयन की सांद्रता घट जाएगी।
4. सेल का तापमान घट जाएगा।

Options :

- 485584143089. 1
- 485584143090. 2
- 485584143091. 3
- 485584143092. 4

Question Number : 9 Question Id : 48558435774 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :



Key	Value
Comprehension	MCQ

A first order reaction is found to have a rate constant, $k = 5.5 \times 10^{-14} \text{ s}^{-1}$. Find the half life of the reaction.

1. $t_{1/2} = 0.693 \text{ s}$

2. $t_{1/2} = 5.5 \times 10^{13} \text{ s}$

3. $t_{1/2} = 2.303 \times 10^{13} \text{ s}$

4. $t_{1/2} = 1.26 \times 10^{13} \text{ s}$

Options :

485584143093. 1

485584143094. 2

485584143095. 3

485584143096. 4

Question Number : 9 Question Id : 48558435774 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

किसी प्रथम कोटि अभिक्रिया क वेग स्थिरांक $k = 5.5 \times 10^{-14} \text{ s}^{-1}$ पाया गया। इस अभिक्रिया की अर्धायु ज्ञात कीजिए

1. $t_{1/2} = 0.693 \text{ s}$

2. $t_{1/2} = 5.5 \times 10^{13} \text{ s}$

3. $t_{1/2} = 2.303 \times 10^{13} \text{ s}$

4. $t_{1/2} = 1.26 \times 10^{13} \text{ s}$

Options :

485584143093. 1

485584143094. 2

485584143095. 3

485584143096. 4

Question Number : 10 Question Id : 48558435775 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
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In the below given hypothetical equation

$$r = k[A]^x [B]^y$$

If the concentration of [B] is kept constant and concentration of [A] is increased to 3 times, the reaction rate increases 27 times, then the order of reaction with respect to A is :

1. 3
2. 2
3. 1
4. 0

Options :

485584143097. 1
485584143098. 2
485584143099. 3
485584143100. 4

Question Number : 10 Question Id : 48558435775 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

निम्नलिखित काल्पनिक समीकरण

$$r = k[A]^x [B]^y$$

में यदि [B] की सांद्रता स्थिर और [A] की सांद्रता तीन गुना बढ़ा दी जाए तो वेग स्थिरांक 27 गुना हो जाएगा, अभिक्रिया की कोटि 'A' के सापेक्ष है :

1. 3
2. 2
3. 1
4. 0

Options :

485584143097. 1
485584143098. 2
485584143099. 3
485584143100. 4

Question Number : 11 Question Id : 48558435776 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ



A graph is plotted between $\ln k$ and $\frac{1}{T}$, what is the value of slope?

1. Slope = $\frac{Ea}{R}$

2. Slope = $\frac{-Ea}{R}$

3. Slope = $\frac{k}{R}$

4. Slope = $\frac{-k}{R}$

Options :

485584143101. 1

485584143102. 2

485584143103. 3

485584143104. 4

Question Number : 11 Question Id : 48558435776 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

$\ln k$ और $\frac{1}{T}$, के मध्य एक वक्र आलेख बनाया गया। आलेख में बने ढाल का क्या मान है ?

1. ढाल = $\frac{Ea}{R}$

2. ढाल = $\frac{-Ea}{R}$

3. ढाल = $\frac{k}{R}$

4. ढाल = $\frac{-k}{R}$

Options :

485584143101. 1

485584143102. 2

485584143103. 3

485584143104. 4

Question Number : 12 Question Id : 48558435777 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1



Question Key Details :

Key	Value
Comprehension	MCQ

Ore of copper is :

1. Malachite
2. Magnetite
3. Cryolite
4. Calamine

Options :

485584143105. 1
485584143106. 2
485584143107. 3
485584143108. 4

Question Number : 12 Question Id : 48558435777 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

कॉपर का अयस्क है :

1. मैलेकाइट
2. मैग्नेटाइट
3. क्रायोलाइट
4. कैलेमाइन

Options :

485584143105. 1
485584143106. 2
485584143107. 3
485584143108. 4

Question Number : 13 Question Id : 48558435778 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Zone refining is based on the principle that

1. Impurities of low boiling point metals can be separated by distillation
2. Impurities are more soluble in molten metal than in solid metal
3. Vapours of volatile compounds can be decomposed to give pure metal
4. Different component can be absorbed differently on a adsorbant

Options :

485584143109. 1
485584143110. 2
485584143111. 3
485584143112. 4

Question Number : 13 Question Id : 48558435778 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

मण्डल परिष्करण के सिद्धांत किस पर आधारित है ?

1. न्यूनतम कथनांक की अशुद्धियों को आसवन विधि द्वारा पृथक किया जा सकता है।
2. ठोस धातु की अपेक्षा गलित धातु में अशुद्धियों की विलेयता अधिक होती हैं।
3. वाष्पशील यौगिक की वाष्प शुद्ध धातु प्राप्त करने के लिए विघटित की जाती है।
4. अधिशोषक पर विभिन्न घटक भिन्न-भिन्न तरीके से अवशोषित हो सकते हैं।

Options :

485584143109. 1
485584143110. 2
485584143111. 3
485584143112. 4

Question Number : 14 Question Id : 48558435779 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

The strongest oxidising and reducing agents respectively are.

1. F_2 and I^-
2. Br_2 and Cl^-
3. Cl_2 and Br^-
4. Cl_2 and I_2

Options :

485584143113. 1
485584143114. 2
485584143115. 3
485584143116. 4

Question Number : 14 Question Id : 48558435779 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

प्रबल ऑक्सीकारक एवं अपचायक क्रमशः हैं :

1. F_2 और I^-
2. Br_2 और Cl^-
3. Cl_2 और Br^-
4. Cl_2 और I_2

Options :

485584143113. 1
485584143114. 2
485584143115. 3
485584143116. 4

Question Number : 15 Question Id : 48558435780 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

What is basicity of H_3PO_4

1. 1

2. 2

3. 3

4. 5

Options :

485584143117. 1

485584143118. 2

485584143119. 3

485584143120. 4

Question Number : 15 Question Id : 48558435780 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

H_3PO_4 की क्षारकता क्या है ?

1. 1

2. 2

3. 3

4. 5

Options :

485584143117. 1

485584143118. 2

485584143119. 3

485584143120. 4

Question Number : 16 Question Id : 48558435781 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Identify the correct statement(s).

- A. Fluorine is a stronger oxidising agent than chlorine.
- B. Sulphur in vapour state shows paramagnetic behavior.
- C. H_2S is more acidic than H_2Te .
- D. Fluorine form two oxoacids HOF, HOFO.

Choose the correct answer from the options given below:

- 1. A and B only
- 2. B and C only
- 3. A, B, C, D only
- 4. A and C only

Options :

- 485584143121. 1
- 485584143122. 2
- 485584143123. 3
- 485584143124. 4

Question Number : 16 Question Id : 48558435781 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

सही कथन को पहचानिए

- A. क्लोरीन की अपेक्षा फ्लोरीन एक प्रबल ऑक्सीकारक है।
- B. वाष्पीय अवस्था में सल्फर अनुचुम्बकीय पदार्थ की तरह व्यवहार करता है।
- C. H_2Te की तुलना में H_2S अधिक अम्लीय है।
- D. फ्लोरीन HOF और HOFO दो प्रकार के ऑक्सोअम्ल बनाता है।

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए

- 1. केवल A और B
- 2. केवल B और C
- 3. केवल A, B, C और D
- 4. केवल A और C

Options :

- 485584143121. 1
- 485584143122. 2
- 485584143123. 3
- 485584143124. 4

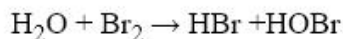
Question Number : 17 Question Id : 48558435782 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Which is best description of behavior of bromine in the reaction given below?



1. Proton accepted only
2. Both oxidised and Reduced
3. Oxidised only
4. Reduced only

Options :

485584143125. 1

485584143126. 2

485584143127. 3

485584143128. 4

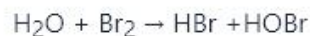
Question Number : 17 Question Id : 48558435782 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

दी गई रासायनिक अभिक्रिया में कौन-सा विकल्प ब्रोमीन के व्यवहार का सर्वश्रेष्ठ वर्णन करता है ?



1. केवल प्रोटॉनग्राही
2. ऑक्सीकृत और अपचयित दोनों
3. केवल ऑक्सीकृत
4. केवल अपचयित

Options :

485584143125. 1

485584143126. 2

485584143127. 3

485584143128. 4

Question Number : 18 Question Id : 48558435783 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

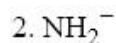


Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Which of the following ionic species has the greatest proton affinity to form stable compound ?



Options :

485584143129. 1

485584143130. 2

485584143131. 3

485584143132. 4

Question Number : 18 Question Id : 48558435783 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

स्थायी यौगिक बनाने के लिए किस आयनिक स्पीशीज़ की सर्वाधिक प्रोटॉन बंधुता है ?



Options :

485584143129. 1

485584143130. 2

485584143131. 3

485584143132. 4

Question Number : 19 Question Id : 48558435784 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ



Which one of the following characteristics of the transition metals is associated with their catalytic property/activity ?

1. colour of hydrated ion
2. variable oxidation states
3. high enthalpy of atomisation
4. paramagnetic behaviour

Options :

485584143133. 1
485584143134. 2
485584143135. 3
485584143136. 4

Question Number : 19 Question Id : 48558435784 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

निम्नलिखित में कौन-से अभिलक्षण संक्रमण धातुओं की उत्प्रेरक क्षमता से संबंधित हैं ?

1. हाइड्रेट आयनों का रंग
2. परिवर्ती ऑक्सीकरण अवस्था
3. उच्च कणन एन्थैल्पी
4. अनुचुम्बकीय प्रकृति

Options :

485584143133. 1
485584143134. 2
485584143135. 3
485584143136. 4

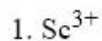
Question Number : 20 Question Id : 48558435785 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

The aqueous solution containing which one of the following ions will be colourless (Atomic number of Sc = 21, Fe = 26, Ti = 22, Mn = 25)



Options :

485584143137. 1

485584143138. 2

485584143139. 3

485584143140. 4

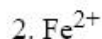
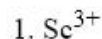
Question Number : 20 Question Id : 48558435785 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

दिए गए आयनों में किसका जलीय विलयन रंगहीन होगा ? (परमाणु संख्या:- Sc = 21, Fe = 26, Ti = 22, Mn = 25)



Options :

485584143137. 1

485584143138. 2

485584143139. 3

485584143140. 4

Question Number : 21 Question Id : 48558435786 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Match List I with List II

LIST I		LIST II	
A.	KMnO_4	I.	Orange
B.	$\text{K}_2\text{Cr}_2\text{O}_7$	II.	Green
C.	K_2CrO_4	III.	Yellow
D.	K_2MnO_4	IV.	Purple

Choose the correct answer from the options given below:

1. A-II, B-III, C-I, D-IV
2. A-IV, B-III, C-II, D-I
3. A-IV, B-III, C-I, D-II
4. A-IV, B-I, C-III, D-II

Options :

485584143141. 1
485584143142. 2
485584143143. 3
485584143144. 4

Question Number : 21 Question Id : 48558435786 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

सूची I का सूची II के साथ मिलान कीजिए

सूची I		सूची II	
A.	KMnO_4	I.	नारंगी
B.	$\text{K}_2\text{Cr}_2\text{O}_7$	II.	हरा
C.	K_2CrO_4	III.	पीला
D.	K_2MnO_4	IV.	बैंगनी

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए

1. A-II, B-III, C-I, D-IV
2. A-IV, B-III, C-II, D-I
3. A-IV, B-III, C-I, D-II
4. A-IV, B-I, C-III, D-II

Options :

485584143141. 1
485584143142. 2

485584143143. 3

485584143144. 4

Question Number : 22 Question Id : 48558435787 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Match List I with List II

LIST I		LIST II	
A.	Fe^{2+}	I.	2.84 BM
B.	Ni^{2+}	II.	0.00BM
C.	Mn^{2+}	III.	4.90BM
D.	Zn^{2+}	IV.	5.92BM

Choose the correct answer from the options given below:

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

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

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

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

Options :

485584143145. 1

485584143146. 2

485584143147. 3

485584143148. 4

Question Number : 22 Question Id : 48558435787 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

सूची I का सूची II के साथ मिलान कीजिए

सूची I		सूची II	
A.	Fe^{2+}	I.	2.84 BM
B.	Ni^{2+}	II.	0.00BM
C.	Mn^{2+}	III.	4.90BM
D.	Zn^{2+}	IV.	5.92BM

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए

1. A-I, B-II, C-III, D-IV
2. A-I, B-III, C-II, D-IV
3. A-III, B-I, C-IV, D-II
4. A-III, B-IV, C-I, D-II

Options :

485584143145. 1
485584143146. 2
485584143147. 3
485584143148. 4

Question Number : 23 Question Id : 48558435788 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Which of the complexes give white ppt when treated with aqueous solution of BaCl_2 ?

- A. $[\text{Co}(\text{NH}_3)_5\text{SO}_4]\text{Cl}$
- B. $[\text{Co}(\text{NH}_3)_5\text{Cl}]\text{SO}_4$
- C. $[\text{Co}(\text{NH}_3)_5(\text{NO}_2)](\text{NO}_2)_2$
- D. $[\text{Co}(\text{NH}_3)_5\text{CN}]\text{SO}_4$

Choose the correct answer from the options given below:

1. B, C only
2. B, D only
3. A, C only
4. A, C, D only

Options :

485584143149. 1
485584143150. 2
485584143151. 3

485584143152. 4

Question Number : 23 Question Id : 48558435788 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

निम्नलिखित में कौन-से संकुल, BaCl_2 के जलीय विलयन के साथ सफेद अवक्षेप देंगे ?

- A. $[\text{Co}(\text{NH}_3)_5\text{SO}_4]\text{Cl}$
- B. $[\text{Co}(\text{NH}_3)_5\text{Cl}]\text{SO}_4$
- C. $[\text{Co}(\text{NH}_3)_5(\text{NO}_2)](\text{NO}_2)_2$
- D. $[\text{Co}(\text{NH}_3)_5\text{CN}]\text{SO}_4$

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए

- 1. केवल B और C
- 2. केवल B और D
- 3. केवल A और C
- 4. केवल A, C और D

Options :

485584143149. 1

485584143150. 2

485584143151. 3

485584143152. 4

Question Number : 24 Question Id : 48558435789 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Match List I with List II

LIST I Compound		LIST II Oxidation Number of Cobalt	
A.	$[\text{Co}(\text{NH}_3)_5(\text{NCS})](\text{SO}_3)$	I.	+4
B.	$[\text{Co}(\text{NH}_3)_4\text{Cl}_2]\text{SO}_4$	II.	0
C.	$\text{Na}_4[\text{Co}(\text{S}_2\text{O}_3)_3]$	III.	+2
D.	$[\text{Co}_2(\text{CO})_8]$	IV.	+3

Choose the correct answer from the options given below:

1. A-I, B-II, C-IV, D-III
2. A-IV, B-III, C-II, D-I
3. A-IV, B-I, C-III, D-II
4. A-IV, B-II, C-III, D-I

Options :

485584143153. 1
485584143154. 2
485584143155. 3
485584143156. 4

Question Number : 24 Question Id : 48558435789 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

सूची I का सूची II के साथ मिलान कीजिए

सूची I यौगिक		सूची II कोबाल्ट की ऑक्सीकरण संख्या	
A.	$[\text{Co}(\text{NH}_3)_5(\text{NCS})](\text{SO}_3)$	I.	+4
B.	$[\text{Co}(\text{NH}_3)_4\text{Cl}_2]\text{SO}_4$	II.	0
C.	$\text{Na}_4[\text{Co}(\text{S}_2\text{O}_3)_3]$	III.	+2
D.	$[\text{Co}_2(\text{CO})_8]$	IV.	+3

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए

1. A-I, B-II, C-IV, D-III
2. A-IV, B-III, C-II, D-I
3. A-IV, B-I, C-III, D-II
4. A-IV, B-II, C-III, D-I



Options :

485584143153. 1
485584143154. 2
485584143155. 3
485584143156. 4

Question Number : 25 Question Id : 48558435790 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

The increasing order of magnetic behaviour for following complex is

- A. $[\text{Ti}(\text{H}_2\text{O})_6]^{3+}$
B. $[\text{V}(\text{H}_2\text{O})_6]^{3+}$
C. $[\text{MnCl}_4]^{2-}$
D. $[\text{MnF}_6]^{3-}$
E. $[\text{Cr}(\text{H}_2\text{O})_6]^{3+}$

Choose the correct answer from the options given below:

1. $A < B < C < D < E$
2. $E < D < C < B < A$
3. $D < A < B < C < E$
4. $A < B < E < D < C$

Options :

485584143157. 1
485584143158. 2
485584143159. 3
485584143160. 4

Question Number : 25 Question Id : 48558435790 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

निम्नलिखित संकुलों की चुम्बकीय प्रवृत्तियों का बढ़ता क्रम है :

- A. $[\text{Ti}(\text{H}_2\text{O})_6]^{3+}$
- B. $[\text{V}(\text{H}_2\text{O})_6]^{3+}$
- C. $[\text{MnCl}_4]^{2-}$
- D. $[\text{MnF}_6]^{3-}$
- E. $[\text{Cr}(\text{H}_2\text{O})_6]^{3+}$

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए

- 1. $A < B < C < D < E$
- 2. $E < D < C < B < A$
- 3. $D < A < B < C < E$
- 4. $A < B < E < D < C$

Options :

- 485584143157. 1
- 485584143158. 2
- 485584143159. 3
- 485584143160. 4

Question Number : 26 Question Id : 48558435791 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Grignard reagent should be prepared under anhydrous condition because

- 1. carbon - Mg bond is not highly polar
- 2. Mg-X bond is essentially covalent
- 3. It reacts with proton of water to form HX
- 4. It reacts with H_2O to form alkane

Options :

- 485584143161. 1
- 485584143162. 2
- 485584143163. 3
- 485584143164. 4

Question Number : 26 Question Id : 48558435791 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :



Key	Value
Comprehension	MCQ

ग्रीन्यार अभिकर्मक को निर्जलीय अवस्था में बनाना चाहिए क्योंकि

1. कार्बन-मैग्नीशियम आबंध अधिक ध्रुवीय नहीं है।
2. Mg-X आबंध आवश्यक रूप से सह-संयोजी है।
3. यह जल (पानी) के प्रोटॉन से अभिक्रिया करके HX बनाता है।
4. यह पानी के साथ अभिक्रिया करके ऐल्केन बनाता है।

Options :

485584143161. 1
485584143162. 2
485584143163. 3
485584143164. 4

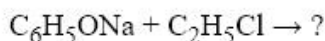
Question Number : 27 Question Id : 48558435792 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

What will be the product of the following reaction:



1. $C_6H_5COC_2H_5$
2. $C_6H_5OC_2H_5$
3. $C_6H_5OC_2H_4Cl$
4. $C_2H_5OC_2H_5$

Options :

485584143165. 1
485584143166. 2
485584143167. 3
485584143168. 4

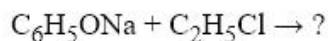
Question Number : 27 Question Id : 48558435792 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

दी गई अभिक्रिया का उत्पाद क्या होगा ?



1. $\text{C}_6\text{H}_5\text{COC}_2\text{H}_5$
2. $\text{C}_6\text{H}_5\text{OC}_2\text{H}_5$
3. $\text{C}_6\text{H}_5\text{OC}_2\text{H}_4\text{Cl}$
4. $\text{C}_2\text{H}_5\text{OC}_2\text{H}_5$

Options :

485584143165. 1
485584143166. 2
485584143167. 3
485584143168. 4

Question Number : 28 Question Id : 48558435793 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Allyl chloride on dehydrochlorination gives :

1. Propadiene
2. Propylene
3. Alkyl alcohol
4. Acetyl chloride

Options :

485584143169. 1
485584143170. 2
485584143171. 3
485584143172. 4

Question Number : 28 Question Id : 48558435793 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

ऐलिल क्लोराइड विहाइड्रोक्लोरीकरण प्रक्रिया के उपरांत देता है :

1. प्रोपाडाईइन
2. प्रोपाइलीन
3. ऐल्किल एल्कोहल
4. ऐसिटिल क्लोराइड

Options :

485584143169. 1
485584143170. 2
485584143171. 3
485584143172. 4

Question Number : 29 Question Id : 48558435794 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Arrange the following sets of compounds in order of their increasing boiling points.

- A. Pentan-1-ol
- B. Butan-1-ol
- C. Butan-2-ol
- D. Ethanol
- E. Propan-1-ol

Choose the correct answer from the options given below:

1. $A < B < C < D < E$
2. $B < C < D < E < A$
3. $C < D < E < A < B$
4. $D < E < C < B < A$

Options :

485584143173. 1
485584143174. 2
485584143175. 3
485584143176. 4

Question Number : 29 Question Id : 48558435794 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
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निम्नलिखित यौगिकों को उनके कथनांक के बढ़ते क्रम में व्यवस्थित कीजिए।

- A. पेन्टेन-1-ऑल
- B. ब्यूटेन-1-ऑल
- C. ब्यूटेन-2-ऑल
- D. एथनॉल
- E. प्रोपन-1-ऑल

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए

1. $A < B < C < D < E$
2. $B < C < D < E < A$
3. $C < D < E < A < B$
4. $D < E < C < B < A$

Options :

- 485584143173. 1
- 485584143174. 2
- 485584143175. 3
- 485584143176. 4

Question Number : 30 Question Id : 48558435795 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Monochlorination of toluene in sunlight followed by hydrolysis with aq NaOH yields.

1. *o*-Cresol
2. *m*-Cresol
3. 2,4-Dihydroxytoluene
4. Benzylalcohol

Options :

- 485584143177. 1
- 485584143178. 2
- 485584143179. 3
- 485584143180. 4

Question Number : 30 Question Id : 48558435795 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

टॉलुईन का सूर्य के प्रकाश में एकल क्लोरीकरण, फिर जलीय NaOH के साथ जल अपघटन उत्पादित करता है

1. *o*-क्रिसॉल
2. *m*-क्रिसॉल
3. 2,4-डाइहाइड्रॉक्सीटॉलुईन
4. बेन्जिल एल्कोहल

Options :

485584143177. 1
 485584143178. 2
 485584143179. 3
 485584143180. 4

Question Number : 31 Question Id : 48558435796 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

When phenol is treated with chloroform in the presence of NaOH, the major product formed is ?

1. 2-Hydroxybenzoic acid
2. Anisole
3. Salicylaldehyde
4. Methoxy - toluene

Options :

485584143181. 1
 485584143182. 2
 485584143183. 3
 485584143184. 4

Question Number : 31 Question Id : 48558435796 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

जब फिनॉल NaOH की उपस्थिति में क्लोरोफार्म के साथ अभिकृत किया जाता है तो बनने वाला मुख्य उत्पाद क्या होगा ?

1. 2-हाइड्रॉक्सी बेन्जोइक अम्ल
2. ऐनिसॉल
3. सैलिसैल्डिहाइड
4. मिथॉक्सी-टॉलुईन

Options :

485584143181. 1
485584143182. 2
485584143183. 3
485584143184. 4

Question Number : 32 Question Id : 48558435797 Question Type : MCQ Option Shuffling : No Is Question Mandatory :
No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Match List I with List II

LIST I		LIST II	
A.	HCl - ZnCl ₂	I.	Reducing agent
B.	LiAlH ₄	II.	Grignard reagent
C.	PCC	III.	Oxidising agent
D.	Ethyl magnesium bromide	IV.	Lucas reagent

Choose the correct answer from the options given below:

1. A-II, B-III, C-IV, D-I
2. A-IV, B-II, C-III, D-I
3. A-IV, B-I, C-III, D-II
4. A-IV, B-III, C-I, D-II

Options :

485584143185. 1
485584143186. 2
485584143187. 3
485584143188. 4

Question Number : 32 Question Id : 48558435797 Question Type : MCQ Option Shuffling : No Is Question Mandatory :
No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
-----	-------



सूची I का सूची II से मिलान कीजिए

सूची I		सूची II	
A.	HCl - ZnCl ₂	I.	अपचायक
B.	LiAlH ₄	II.	ग्रीन्यार अभिकर्मक
C.	P.C.C	III.	ऑक्सीकारक
D.	एथिल मैग्नीशियम ब्रोमाइड	IV.	ल्यूकास अभिकर्मक

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए :

1. A-II, B-III, C-IV, D-I
2. A-IV, B-II, C-III, D-I
3. A-IV, B-I, C-III, D-II
4. A-IV, B-III, C-I, D-II

Options :

485584143185. 1
485584143186. 2
485584143187. 3
485584143188. 4

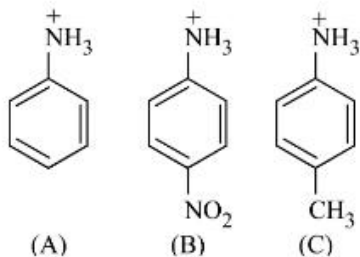
Question Number : 33 Question Id : 48558435798 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Arrange the following three compounds in order of decreasing acidity.



1. B > A > C
2. B > C > A
3. C > B > A
4. C > A > B

Options :

485584143189. 1
485584143190. 2

485584143191. 3

485584143192. 4

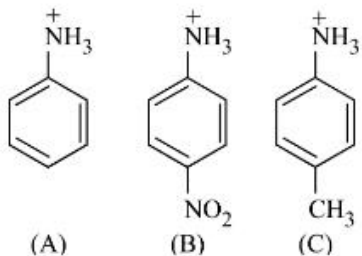
Question Number : 33 Question Id : 48558435798 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

निम्नलिखित तीन यौगिकों को उनकी अम्लता के घटते क्रम में व्यवस्थित कीजिए



1. B > A > C

2. B > C > A

3. C > B > A

4. C > A > B

Options :

485584143189. 1

485584143190. 2

485584143191. 3

485584143192. 4

Question Number : 34 Question Id : 48558435799 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Reaction of nitrous acid with aliphatic primary amine in cold gives.

1. A diazonium salt

2. An alcohol

3. A nitrite

4. A dye

Options :

485584143193. 1

485584143194. 2

485584143195. 3
485584143196. 4

Question Number : 34 Question Id : 48558435799 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

नाइट्रस अम्ल की ऐलिफैटिक प्राथमिक ऐमीन के साथ शीत अवस्था में अभिक्रिया कराने पर प्राप्त होता है।

1. एक डाईऐज़ोनियम लवण
2. एक एल्कोहल
3. एक नाइट्राइट
4. एक रंजक

Options :

485584143193. 1
485584143194. 2
485584143195. 3
485584143196. 4

Question Number : 35 Question Id : 48558435800 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Aniline upon heating with conc. HNO_3 and concentrated H_2SO_4 mixture gives.

1. *o*- and *p*-nitroaniline
2. *o*-Nitroaniline
3. Black terry mass
4. 2,4,6 -trinitroaniline

Options :

485584143197. 1
485584143198. 2
485584143199. 3
485584143200. 4

Question Number : 35 Question Id : 48558435800 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1



Question Key Details :

Key	Value
Comprehension	MCQ

ऐनिलीन HNO_3 और सान्द्र H_2SO_4 के साथ गर्म करने पर देता है :

1. *o*- और *p*-नाइट्रोऐनिलीन
2. *o*-नाइट्रोऐनिलीन
3. कोलतारी
4. 2,4,6-ट्राईनाइट्रोऐनिलीन

Options :

485584143197. 1
485584143198. 2
485584143199. 3
485584143200. 4

Question Number : 36 Question Id : 48558435801 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Match List I with List II

LIST I		LIST II	
A.	Insulin	I.	Female hormone
B.	Thyroxine	II.	Male sex hormone
C.	Testosterone	III.	Thyroid
D.	Estradiol	IV.	Blood glucose level

Choose the correct answer from the options given below:

1. A-I, B-II, C-III, D-IV
2. A-IV, B-III, C-II, D-I
3. A-IV, B-III, C-I, D-II
4. A-III, B-IV, C-II, D-I

Options :

485584143201. 1
485584143202. 2
485584143203. 3
485584143204. 4

Question Number : 36 Question Id : 48558435801 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0



Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

सूची I का सूची II से मिलान कीजिए

सूची I	सूची II
A. इंसुलिन	I. मादा हार्मोन
B. थायरोक्सिन	II. नर लिंग हार्मोन
C. टेस्टोस्टीरॉन	III. थायरायड
D. ऐस्ट्राडाईऑल	IV. ग्लूकोज़ का रक्त में स्तर

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए :

1. A-I, B-II, C-III, D-IV
2. A-IV, B-III, C-II, D-I
3. A-IV, B-III, C-I, D-II
4. A-III, B-IV, C-II, D-I

Options :

485584143201. 1
485584143202. 2
485584143203. 3
485584143204. 4

Question Number : 37 Question Id : 48558435802 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Which of the following will not be sweet in taste?

1. Maltose
2. Glycogen
3. Lactose
4. Fructose

Options :

485584143205. 1
485584143206. 2
485584143207. 3
485584143208. 4

Question Number : 37 Question Id : 48558435802 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

निम्नलिखित में किसका स्वाद मधुर (मीठा) नहीं होगा ?

1. माल्टोस
2. ग्लाइकोजन
3. लैक्टोस
4. फ्रक्टोस

Options :

485584143205. 1
485584143206. 2
485584143207. 3
485584143208. 4

Question Number : 38 Question Id : 48558435803 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Match List I with List II

LIST I		LIST II	
A.	Vitamin C	I.	Rickets
B.	Vitamin A	II.	Beri Beri
C.	Vitamin D	III.	Scurvy
D.	Vitamin B ₁	IV.	Night blindness

Choose the correct answer from the options given below:

1. A-IV, B-II, C-III, D-I
2. A-III, B-IV, C-II, D-I
3. A-III, B-IV, C-I, D-II
4. A-III, B-I, C-IV, D-II

Options :

485584143209. 1
485584143210. 2
485584143211. 3
485584143212. 4

Question Number : 38 Question Id : 48558435803 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

सूची I का सूची II से मिलान कीजिए

सूची I		सूची II	
A.	विटामिन-C	I.	रिकेट्स
B.	विटामिन-A	II.	बेरी-बेरी
C.	विटामिन-D	III.	स्कर्वी
D.	विटामिन-B ₁	IV.	रतौंधी

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए :

1. A-IV, B-II, C-III, D-I
2. A-III, B-IV, C-II, D-I
3. A-III, B-IV, C-I, D-II
4. A-III, B-I, C-IV, D-II

Options :

485584143209. 1
485584143210. 2
485584143211. 3
485584143212. 4

Question Number : 39 Question Id : 48558435804 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Match List I with List II

LIST I		LIST II	
A.	Terylene	I.	Gycosidic linkage
B.	Nylon	II.	Ester linkage
C.	Cellulose	III.	Phosphodiester linkage
D.	RNA	IV.	Amide linkage

Choose the correct answer from the options given below:

1. A-II, B-IV, C-I, D-III
2. A-III, B-II, C-IV, D-I
3. A-I, B-II, C-III, D-IV
4. A-IV, B-II, C-III, D-I

Options :

485584143213. 1
485584143214. 2
485584143215. 3
485584143216. 4

Question Number : 39 Question Id : 48558435804 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

सूची I का सूची II से मिलान कीजिए

सूची I		सूची II	
A.	टेरिलीन	I.	ग्लाइकोसाइडी बंधन
B.	नाइलॉन	II.	एस्टर बंधन
C.	सेलुलोज़	III.	फॉस्फोडाई एस्टर बंधन
D.	आर. एन. ए.	IV.	एमाइड बंधन

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए :

1. A-II, B-IV, C-I, D-III
2. A-III, B-II, C-IV, D-I
3. A-I, B-II, C-III, D-IV
4. A-IV, B-II, C-III, D-I

Options :

485584143213. 1
485584143214. 2
485584143215. 3

485584143216. 4

Question Number : 40 Question Id : 48558435805 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Which of the following will act as antiseptic as well as disinfectant ?

1. Boric acid
2. Iodoform
3. Sulphur dioxide
4. Phenol

Options :

485584143217. 1
485584143218. 2
485584143219. 3
485584143220. 4

Question Number : 40 Question Id : 48558435805 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

निम्नलिखित में कौन पूतिरोधी और विसंक्रामी की तरह कार्य करेगा ?

1. बोरिक अम्ल
2. आयोडोफार्म
3. सल्फर डाईऑक्साइड
4. फिनॉल

Options :

485584143217. 1
485584143218. 2
485584143219. 3
485584143220. 4

Sub-Section Number :

2

Sub-Section Id :

4855842645

Question Shuffling Allowed :

No

Is Section Default? :

null

Question Number : 41 Question Id : 48558435806 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp1

In a colloidal state the particle size of the dispersed phase range between 10^3 to 10^6 pm and colloidal sol is heterogenous in nature. Based on the nature of interaction between the dispersed phase and dispersion medium colloidal sol are classified as lyophilic and lyophobic. Stability of sol is due to presence of charge on the sol particles and the neutralisation of the same is known as coagulation or precipitation.

Based on this answer the following.

Lyophilic sols are more stable than lyophobic sols because

1. The colloidal particles have positive charge
2. The colloidal particles have no charge
3. The colloidal particles are solvated
4. A small amount of electrolyte is added to stabilise

Options :

- 485584143221. 1
- 485584143222. 2
- 485584143223. 3
- 485584143224. 4

Question Number : 41 Question Id : 48558435806 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp1

कोलॉइड प्रावस्था में कणों का आकार 10^3 से 10^6 होता है और कोलॉइड सॉल विषमांगी प्रकृति का होता है। परिक्षिप्त प्रावस्था एवं परिक्षेपण माध्यम के मध्य क्रिया के आधार पर कोलॉइड सॉल को द्रवरागी और द्रवविरागी में वर्गीकृत किया गया। सॉल का स्थायित्व उसके कणों पर उपस्थित आवेश के कारण होता है और इनका उदासीनीकरण स्कंदन या अवक्षेपण कहलाता है।

इस आधार पर निम्नलिखित प्रश्न का उत्तर दीजिए :

द्रवविरागी सॉल की तुलना में द्रवरागी सॉल अधिक स्थायी होते हैं क्योंकि-

1. कोलॉइड कण घनावेशित होते हैं।
2. कोलॉइड कणों पर कोई आवेश नहीं होता।
3. कोलॉइड कण विलायकयोजित होते हैं।
4. विद्युत अपघट्य की सूक्ष्म मात्रा इसे स्थायित्व प्रदान करती है।

Options :

485584143221. 1
485584143222. 2
485584143223. 3
485584143224. 4

Question Number : 42 Question Id : 48558435807 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp1

In a colloidal state the particle size of the dispersed phase range between 10^3 to 10^6 pm and colloidal sol is heterogenous in nature. Based on the nature of interaction between the dispersed phase and dispersion medium colloidal sol are classified as lyophilic and lyophobic. Stability of sol is due to presence of charge on the sol particles and the neutralisation of the same is known as coagulation or precipitation.

Based on this answer the following.

Bredig's arc method is.

1. To coagulate colloidal sol
2. To prepare colloidal sol
3. To purify the colloidal sol
4. To prepare the micelles

Options :

485584143225. 1
485584143226. 2
485584143227. 3
485584143228. 4

Question Number : 42 Question Id : 48558435807 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :



Key	Value
Comprehension	Comp1

कोलॉइड प्रावस्था में कणों का आकार 10^3 से 10^6 होता है और कोलॉइड सॉल विषमांगी प्रकृति का होता है। परिक्षिप्त प्रावस्था एवं परिक्षेपण माध्यम के मध्य क्रिया के आधार पर कोलॉइड सॉल को द्रवरागी और द्रवविरागी में वर्गीकृत किया गया। सॉल का स्थायित्व उसके कणों पर उपस्थित आवेश के कारण होता है और इनका उदासीनीकरण स्कंदन या अवक्षेपण कहलाता है।

इस आधार पर निम्नलिखित प्रश्न का उत्तर दीजिए :

ब्रेडिंग आर्क विधि है :

1. कोलॉइडी सॉल का स्कंदन के लिए
2. कोलॉइडी सॉल का बनाने
3. कोलॉइडी सॉल का शुद्धिकरण के लिए
4. मिसेल बनाने के लिए

Options :

485584143225. 1
 485584143226. 2
 485584143227. 3
 485584143228. 4

Question Number : 43 Question Id : 48558435808 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp1

In a colloidal state the particle size of the dispersed phase range between 10^3 to 10^6 pm and colloidal sol is heterogenous in nature. Based on the nature of interaction between the dispersed phase and dispersion medium colloidal sol are classified as lyophilic and lyophobic. Stability of sol is due to presence of charge on the sol particles and the neutralisation of the same is known as coagulation or precipitation.

Based on this answer the following.

The formation of micelles takes place.

1. Only above a particular temperature and above a particular concentration
2. Only below a particular temperature and below a particular concentration
3. Only above Kraft temperature and below CMC
4. Only below Kraft temperature and above CMC

Options :

485584143229. 1

485584143230. 2

485584143231. 3

485584143232. 4

Question Number : 43 Question Id : 48558435808 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp1

कोलॉइड प्रावस्था में कणों का आकार 10^3 से 10^6 होता है और कोलॉइड सॉल विषमांगी प्रकृति का होता है। परिक्षिप्त प्रावस्था एवं परिक्षेपण माध्यम के मध्य क्रिया के आधार पर कोलॉइड सॉल को द्रवरागी और द्रवविरागी में वर्गीकृत किया गया। सॉल का स्थायित्व उसके कणों पर उपस्थित आवेश के कारण होता है और इनका उदासीनीकरण स्कंदन या अवक्षेपण कहलाता है।

इस आधार पर निम्नलिखित प्रश्न का उत्तर दीजिए :

मिसेल का निर्माण होता है :

1. केवल नियत तापमान और सांद्रता से ऊपर
2. केवल नियत तापमान और सांद्रता से नीचे
3. केवल क्राफ्ट ताप से ऊपर और CMC से नीचे
4. केवल क्राफ्ट ताप से नीचे और CMC से ऊपर

Options :

485584143229. 1

485584143230. 2

485584143231. 3

485584143232. 4

Question Number : 44 Question Id : 48558435809 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :



Key	Value
Comprehension	Comp1

In a colloidal state the particle size of the dispersed phase range between 10^3 to 10^6 pm and colloidal sol is heterogenous in nature. Based on the nature of interaction between the dispersed phase and dispersion medium colloidal sol are classified as lyophilic and lyophobic. Stability of sol is due to presence of charge on the sol particles and the neutralisation of the same is known as coagulation or precipitation.

Based on this answer the following.

The Arsenous sulphide As_2S_3 sol has negative (-) charge. The maximum power to precipitate it is of :

1. H_2SO_4
2. Na_3PO_4
3. $CaCl_2$
4. $AlCl_3$

Options :

485584143233. 1
 485584143234. 2
 485584143235. 3
 485584143236. 4

Question Number : 44 Question Id : 48558435809 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp1

कोलॉइड प्रावस्था में कणों का आकार 10^3 से 10^6 होता है और कोलॉइड सॉल विषमांगी प्रकृति का होता है। परिक्षिप्त प्रावस्था एवं परिक्षेपण माध्यम के मध्य क्रिया के आधार पर कोलॉइड सॉल को द्रवरागी और द्रवविरागी में वर्गीकृत किया गया। सॉल का स्थायित्व उसके कणों पर उपस्थित आवेश के कारण होता है और इनका उदासीनीकरण स्कंदन या अवक्षेपण कहलाता है।

इस आधार पर निम्नलिखित प्रश्न का उत्तर दीजिए :

आर्सेनस सल्फाइड As_2S_3 सॉल पर ऋणावेश होता है। निम्न में से कौन इसे अधिकतम अवक्षेपित करता है :

1. H_2SO_4
2. Na_3PO_4
3. $CaCl_2$
4. $AlCl_3$

Options :

485584143233. 1
485584143234. 2
485584143235. 3
485584143236. 4

Question Number : 45 Question Id : 48558435810 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp1

In a colloidal state the particle size of the dispersed phase range between 10^3 to 10^6 pm and colloidal sol is heterogenous in nature. Based on the nature of interaction between the dispersed phase and dispersion medium colloidal sol are classified as lyophilic and lyophobic. Stability of sol is due to presence of charge on the sol particles and the neutralisation of the same is known as coagulation or precipitation.

Based on this answer the following.

When KI solution is added to $AgNO_3$ solution such that $AgNO_3$ amount exceeds KI amount.

1. The precipitated AgI adsorbs I^- ions from KI solution and negatively charged colloidal sol result
2. The precipitated AgI adsorbs Ag^+ ions from KI solution and positively charged colloidal sol result
3. The precipitated KI adsorbs NO_3^- ions from $AgNO_3$ and negative charged colloidal sol results
4. No collidal sol. formation takes place

Options :

485584143237. 1
485584143238. 2
485584143239. 3
485584143240. 4

Question Number : 45 Question Id : 48558435810 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1



Question Key Details :

Key	Value
Comprehension	Comp1

कोलॉइड प्रावस्था में कणों का आकार 10^3 से 10^6 होता है और कोलॉइड सॉल विषमांगी प्रकृति का होता है। परिक्षिप्त प्रावस्था एवं परिक्षेपण माध्यम के मध्य क्रिया के आधार पर कोलॉइड सॉल को द्रवरागी और द्रवविरागी में वर्गीकृत किया गया। सॉल का स्थायित्व उसके कणों पर उपस्थित आवेश के कारण होता है और इनका उदासीनीकरण स्कंदन या अवक्षेपण कहलाता है।

इस आधार पर निम्नलिखित प्रश्न का उत्तर दीजिए :

जब KI विलयन $AgNO_3$ विलयन में डाला जाए

1. अवक्षेपित AgI, KI विलयन से I^- आयन को अधिशोषित करता है और ऋणावेशित कोलॉइड सॉल बनाता है।
2. अवक्षेपित AgI KI विलयन से Ag^+ आयन अधिशोषित करता है और धनावेशित कोलॉइड सॉल बनाता है।
3. अवक्षेपित KI, $AgNO_3$ के विलयन से NO_3^- अधिशोषित करता है और ऋणावेशित कोलॉइड सॉल बनाता है।
4. कोलॉइड सॉल नहीं बनाता है।

Options :

485584143237. 1
485584143238. 2
485584143239. 3
485584143240. 4

Sub-Section Number :

3

Sub-Section Id :

4855842646

Question Shuffling Allowed :

No

Is Section Default? :

null

Question Number : 46 Question Id : 48558435811 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2

Certain Aldehydes, Retore and certain alcohol undergo iodoform test. Certain Aldehydes ketones undergo aldol condensation. While certain aldehydes undergo Cannizaro's reaction. Aldehydes responds to tollen reagent and fehling reagent test.



Which amongst the following undergo iodoform test

- A. CH_3OH
B. $\text{CH}_3\text{CH}_2\text{OH}$
C. $\begin{array}{c} \text{CH}_3 \text{ CH} - \text{CH}_3 \\ | \\ \text{OH} \end{array}$
D. $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$

Choose the correct option

1. A and D only
2. B and C only
3. B and D only
4. A and B only

Options :

485584143241. 1
485584143242. 2
485584143243. 3
485584143244. 4

Question Number : 46 Question Id : 48558435811 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

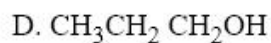
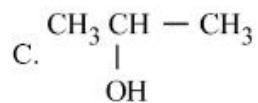
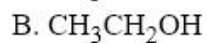
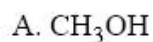
Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2

कुछ ऐल्डिहाइड, कीटोन एवं कुछ ऐल्कोहल आयोडोफार्म परीक्षण देते हैं। कुछ ऐल्डिहाइड एवं कीटोन ऐल्डॉल संघनन की अभिक्रिया करते हैं जबकि कुछ ऐल्डिहाइड कैनिज़ारो अभिक्रिया सम्पादित करते हैं। ऐल्डिहाइड टॉलेन अभिकर्मक और फेहलिंग अभिकर्मक परीक्षण के प्रतिक्रिया दर्शाते हैं।

निम्न में कौन आयोडोफार्म परीक्षण को दर्शाता है:



सही विकल्प का चयन कीजिए

1. केवल A और D
2. केवल B और C
3. केवल B और D
4. केवल A और B

Options :

485584143241. 1

485584143242. 2

485584143243. 3

485584143244. 4

Question Number : 47 Question Id : 48558435812 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

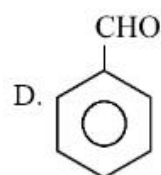
Question Key Details :

Key	Value
Comprehension	Comp2

Certain Aldehydes, Retore and certain alcohol undergo iodoform test. Certain Aldehydes ketones undergo aldol condensation. While certain aldehydes undergo Cannizaro's reaction. Aldehydes responds to tollens reagent and fehling reagent test.

Which amongst the following undergo aldol condensation

- A. CH_3CHO
- B. HCHO
- C. CH_3COCH_3



Choose the correct option

- 1. A and D only
- 2. A and C only
- 3. A and B only
- 4. D only

Options :

- 485584143245. 1
- 485584143246. 2
- 485584143247. 3
- 485584143248. 4

Question Number : 47 Question Id : 48558435812 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

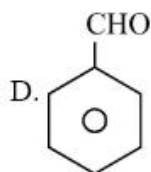
Question Key Details :

Key	Value
Comprehension	Comp2

कुछ ऐल्डिहाइड, कीटोन एवं कुछ ऐल्कोहल आयोडोफार्म परीक्षण देते हैं। कुछ ऐल्डिहाइड एवं कीटोन ऐल्डॉल संघनन की अभिक्रिया करते हैं जबकि कुछ ऐल्डिहाइड कैनिज़ारो अभिक्रिया सम्पादित करते हैं। ऐल्डिहाइड टॉलेन अभिकर्मक और फेहलिंग अभिकर्मक परीक्षण के प्रतिक्रिया दर्शाते हैं।

निम्न में कौन ऐल्डॉल संघनन अभिक्रिया दर्शाता है:

- A. CH_3CHO
- B. HCHO
- C. CH_3COCH_3



सही उत्तर का चयन कीजिए

- 1. केवल A और D
- 2. केवल A और C
- 3. केवल A और B
- 4. केवल D

Options :

- 485584143245. 1
- 485584143246. 2
- 485584143247. 3
- 485584143248. 4

Question Number : 48 Question Id : 48558435813 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

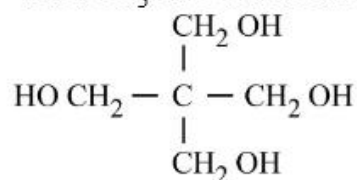
Correct Marks : 5 Wrong Marks : 1

Question Key Details :

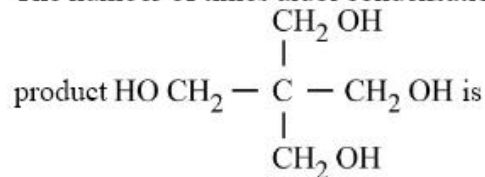
Key	Value
Comprehension	Comp2

Certain Aldehydes, Retore and certain alcohol undergo iodoform test. Certain Aldehydes ketones undergo aldol condensation. While certain aldehydes undergo Cannizaro's reaction. Aldehydes responds to tollen reagent and fehling reagent test.

When CH_3CHO and HCHO are treated with NaOH (aq), one of the products is found to be



The number of times aldol condensation and number of times Cannizzaro's reaction occur to produce the



1. 1, 3
2. 3, 1
3. 2, 2
4. 1, 1

Options :

485584143249. 1
 485584143250. 2
 485584143251. 3
 485584143252. 4

Question Number : 48 Question Id : 48558435813 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

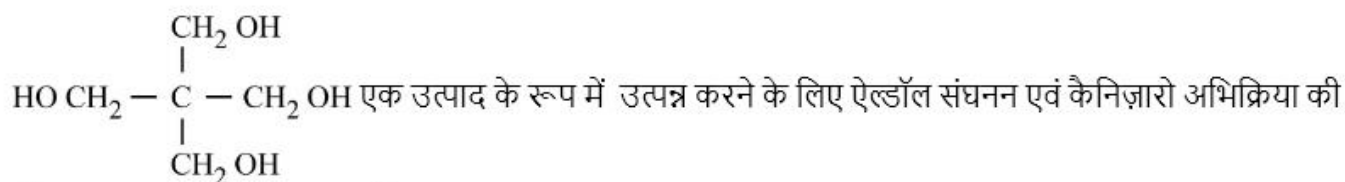
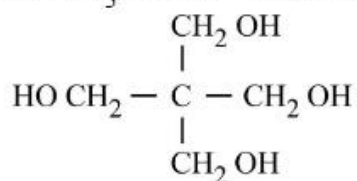
Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2

कुछ ऐल्डिहाइड, कीटोन एवं कुछ ऐल्कोहल आयोडोफार्म परीक्षण देते हैं। कुछ ऐल्डिहाइड एवं कीटोन ऐल्डॉल संघनन की अभिक्रिया करते हैं जबकि कुछ ऐल्डिहाइड कैनिज़ारो अभिक्रिया सम्पादित करते हैं। ऐल्डिहाइड टॉलेन अभिकर्मक और फेहलिंग अभिकर्मक परीक्षण के प्रतिक्रिया दर्शाते हैं।

जब CH_3CHO और HCHO की जलीय NaOH के साथ अभिक्रिया करायी जाती है, तो प्राप्त होने वाला एक उत्पाद



संख्या _____ है।

1. 1, 3
2. 3, 1
3. 2, 2
4. 1, 1

Options :

485584143249. 1
485584143250. 2
485584143251. 3
485584143252. 4

Question Number : 49 Question Id : 48558435814 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

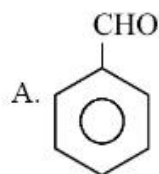
Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2

Certain Aldehydes, Ketones and certain alcohol undergo iodoform test. Certain Aldehydes ketones undergo aldol condensation. While certain aldehydes undergo Cannizaro's reaction. Aldehydes responds to tollens reagent and fehling reagent test.

Which amongst the following will respond to Tollen's reagent test.



- B. HCHO
- C. HCOOH
- D. CH₃COCH₃

Choose the correct option

- 1. A and B only
- 2. A, B and C only
- 3. B and C only
- 4. D only

Options :

- 485584143253. 1
- 485584143254. 2
- 485584143255. 3
- 485584143256. 4

Question Number : 49 Question Id : 48558435814 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

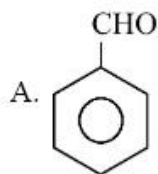
Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2

कुछ ऐल्डिहाइड, कीटोन एवं कुछ ऐल्कोहल आयोडोफार्म परीक्षण देते हैं। कुछ ऐल्डिहाइड एवं कीटोन ऐल्डॉल संघनन की अभिक्रिया करते हैं जबकि कुछ ऐल्डिहाइड कैनिज़ारो अभिक्रिया सम्पादित करते हैं। ऐल्डिहाइड टॉलेन अभिकर्मक और फेहलिंग अभिकर्मक परीक्षण के प्रतिक्रिया दर्शाते हैं।

निम्नलिखित में कौन टॉलेन अभिकर्मक परीक्षण को दर्शाएगा



- B. HCHO
- C. HCOOH
- D. CH₃COCH₃

सही विकल्प का चयन कीजिए

1. केवल A और B
2. केवल A, B और C
3. केवल B और C
4. केवल D

Options :

- 485584143253. 1
- 485584143254. 2
- 485584143255. 3
- 485584143256. 4

Question Number : 50 Question Id : 48558435815 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

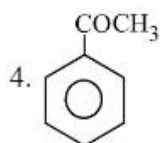
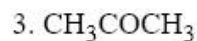
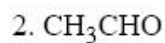
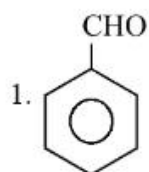
Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2

Certain Aldehydes, Retore and certain alcohol undergo iodoform test. Certain Aldehydes ketones undergo aldol condensation. While certain aldehydes undergo Cannizaro's reaction. Aldehydes responds to tollen reagent and fehling reagent test.

Which amongst the following will respond to both Tollen's reagent test and Fehling reagent test ?



Options :

485584143257. 1

485584143258. 2

485584143259. 3

485584143260. 4

Question Number : 50 Question Id : 48558435815 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

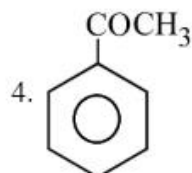
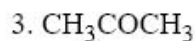
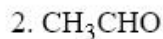
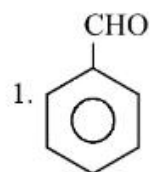
Question Key Details :

Key	Value
Comprehension	Comp2

कुछ ऐल्डिहाइड, कीटोन एवं कुछ ऐल्कोहल आयोडोफार्म परीक्षण देते हैं। कुछ ऐल्डिहाइड एवं कीटोन ऐल्डॉल संघनन की अभिक्रिया करते हैं जबकि कुछ ऐल्डिहाइड कैनिज़ारो अभिक्रिया सम्पादित करते हैं। ऐल्डिहाइड टॉलेन अभिकर्मक और फेहलिंग अभिकर्मक परीक्षण के प्रतिक्रिया दर्शाते हैं।



निम्न में कौन टॉलेन अभिकर्मक एवं फेहलिंग अभिकर्मक परीक्षण दोनों को दर्शाता है:



Options :

485584143257. 1

485584143258. 2

485584143259. 3

485584143260. 4

Mathematics

Group Number :	2
Group Id :	485584810
Group Maximum Duration :	60
Group Minimum Duration :	60
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	200
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No

Common

Section Id :	485584930
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	15
Number of Questions to be attempted :	15
Section Marks :	75
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	4855842647



Question Shuffling Allowed :

Yes

Is Section Default? :

null

Question Number : 51 Question Id : 48558435816 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

If $A = \begin{bmatrix} 2 & 1 \\ 1 & 4 \\ -1 & 6 \\ 0 & 7 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & 2 & 3 & 0 \\ 2 & -1 & 6 & 7 \end{bmatrix}$ then

1. only AB is defined.
2. only BA is defined.
3. AB and BA both are defined.
4. Neither AB nor BA is defined.

Options :

485584143261. 1
485584143262. 2
485584143263. 3
485584143264. 4

Question Number : 51 Question Id : 48558435816 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

यदि $A = \begin{bmatrix} 2 & 1 \\ 1 & 4 \\ -1 & 6 \\ 0 & 7 \end{bmatrix}$ और $B = \begin{bmatrix} 1 & 2 & 3 & 0 \\ 2 & -1 & 6 & 7 \end{bmatrix}$ हो तो

1. केवल AB परिभाषित है।
2. केवल BA परिभाषित है।
3. AB तथा BA दोनों परिभाषित हैं।
4. ना तो AB और ना ही BA परिभाषित है।

Options :

485584143261. 1
485584143262. 2

485584143263. 3
485584143264. 4

Question Number : 52 Question Id : 48558435817 Question Type : MCQ Option Shuffling : No Is Question Mandatory :
No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

If $\begin{bmatrix} 4x & 5x-7 \\ 4x & 2x+y \end{bmatrix} = \begin{bmatrix} x+6 & y \\ 7y-13 & 7 \end{bmatrix}$ then the value of $2x + y$ is:

1. 8
2. 7
3. 9
4. 6

Options :

485584143265. 1
485584143266. 2
485584143267. 3
485584143268. 4

Question Number : 52 Question Id : 48558435817 Question Type : MCQ Option Shuffling : No Is Question Mandatory :
No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

यदि $\begin{bmatrix} 4x & 5x-7 \\ 4x & 2x+y \end{bmatrix} = \begin{bmatrix} x+6 & y \\ 7y-13 & 7 \end{bmatrix}$ तो $2x + y$ का मान है-

1. 8
2. 7
3. 9
4. 6

Options :

485584143265. 1
485584143266. 2
485584143267. 3
485584143268. 4

Question Number : 53 Question Id : 48558435818 Question Type : MCQ Option Shuffling : No Is Question Mandatory :
No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1



Question Key Details :

Key	Value
Comprehension	MCQ1

The area of a triangle with vertices $(0, -3)$, $(0, 3)$ and $(k, 0)$ is 27 sq.units. The value of k is:

1. -27
2. -6
3. -18
4. -9

Options :

485584143269. 1
485584143270. 2
485584143271. 3
485584143272. 4

Question Number : 53 Question Id : 48558435818 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

शीर्ष $(0, -3)$, $(0, 3)$ और $(k, 0)$ वाले त्रिभुज का क्षेत्रफल 27 वर्ग इकाई है। k का मान है:

1. -27
2. -6
3. -18
4. -9

Options :

485584143269. 1
485584143270. 2
485584143271. 3
485584143272. 4

Question Number : 54 Question Id : 48558435819 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

If A is a non singular square matrix of order 3 such that $A^3 = 4A^2$ then value of $|A|$ is:

1. 16
2. 64
3. 4
4. 8

Options :

485584143273. 1
485584143274. 2
485584143275. 3
485584143276. 4

Question Number : 54 Question Id : 48558435819 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

यदि A कोटि 3 का व्युत्क्रमणीय वर्ग आव्यूह इस प्रकार है कि $A^3 = 4A^2$ तो $|A|$ का मान होगा-

1. 16
2. 64
3. 4
4. 8

Options :

485584143273. 1
485584143274. 2
485584143275. 3
485584143276. 4

Question Number : 55 Question Id : 48558435820 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

Derivative of $2x^2$ with respect to $5x^4$ is:

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

2. $-\frac{1}{5x^2}$

3. $\frac{1}{5x^2}$

4. $\frac{1}{5x^3}$

Options :

485584143277. 1

485584143278. 2

485584143279. 3

485584143280. 4

Question Number : 55 Question Id : 48558435820 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

$5x^4$ के सापेक्ष $2x^2$ का अवकलन है-

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

2. $-\frac{1}{5x^2}$

3. $\frac{1}{5x^2}$

4. $\frac{1}{5x^3}$

Options :

485584143277. 1

485584143278. 2

485584143279. 3

485584143280. 4

Question Number : 56 Question Id : 48558435821 Question Type : MCQ Option Shuffling : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0



Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

The slope of normal to the curve $y = 3x^2 - 6x$ at $x = 0$ is:

1. -6

2. $-\frac{1}{6}$

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

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

Options :

485584143281. 1

485584143282. 2

485584143283. 3

485584143284. 4

Question Number : 56 Question Id : 48558435821 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

$x = 0$ पर वक्र $y = 3x^2 - 6x$ के अभिलंब की प्रवणता है:

1. -6

2. $-\frac{1}{6}$

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

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

Options :

485584143281. 1

485584143282. 2

485584143283. 3

485584143284. 4

Question Number : 57 Question Id : 48558435822 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1



If $f(x) = -3x^2$, then $f(x)$ is:

1. Increasing in $(0, \infty)$, decreasing in $(-\infty, 0)$
2. Increasing in $(-\infty, 0)$, decreasing in $[0, \infty)$
3. Increasing in $\left[-\frac{1}{3}, \infty\right)$, decreasing in $\left(-\infty, \frac{-1}{3}\right]$
4. Decreasing for all real values of x

Options :

485584143285. 1
485584143286. 2
485584143287. 3
485584143288. 4

Question Number : 57 Question Id : 48558435822 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

यदि $f(x) = -3x^2$, है, तो $f(x)$ है:

1. $(0, \infty)$ में वर्धमान, $(-\infty, 0)$ में हासमान
2. $(-\infty, 0)$ में वर्धमान, $[0, \infty)$ में हासमान
3. $\left[-\frac{1}{3}, \infty\right)$ में वर्धमान, $\left(-\infty, \frac{-1}{3}\right]$ में हासमान
4. x के सभी वास्तविक मानों के लिये हासमान

Options :

485584143285. 1
485584143286. 2
485584143287. 3
485584143288. 4

Question Number : 58 Question Id : 48558435823 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

The value of $\int (5x - 2)^3 dx$ is:

1. $3(5x - 2) + C$; C is constant of integration.
2. $15(5x - 2)^2 + C$; C is constant of integration.
3. $(5x - 2)^4 + C$; C is constant of integration.
4. $\frac{(5x - 2)^4}{20} + C$; C is constant of integration.

Options :

485584143289. 1
485584143290. 2
485584143291. 3
485584143292. 4

Question Number : 58 Question Id : 48558435823 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

$\int (5x - 2)^3 dx$ का मान है-

1. $3(5x - 2) + C$; C समाकलन अचर है।
2. $15(5x - 2)^2 + C$; C समाकलन अचर है।
3. $(5x - 2)^4 + C$; C समाकलन अचर है।
4. $\frac{(5x - 2)^4}{20} + C$; C समाकलन अचर है।

Options :

485584143289. 1
485584143290. 2
485584143291. 3
485584143292. 4

Question Number : 59 Question Id : 48558435824 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

Area bounded by $y = |x - 5|$ and x -axis between $x = 2$; and $x = 4$ is:

1. 5
2. 4
3. 3
4. 6

Options :

485584143293. 1
485584143294. 2
485584143295. 3
485584143296. 4

Question Number : 59 Question Id : 48558435824 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

$y = |x - 5|$ x -अक्ष एवं $x = 2$ व $x = 4$ से धिरे क्षेत्र का क्षेत्रफल है:

1. 5
2. 4
3. 3
4. 6

Options :

485584143293. 1
485584143294. 2
485584143295. 3
485584143296. 4

Question Number : 60 Question Id : 48558435825 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

If $\frac{d}{dx} \left(2 \frac{d^2 y}{dx^2} \right)^3 = 7$, then the sum of order and degree of the differential equation is:

1. 3
2. 2
3. 5
4. 4

Options :

485584143297. 1
485584143298. 2
485584143299. 3
485584143300. 4

Question Number : 60 Question Id : 48558435825 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

यदि $\frac{d}{dx} \left(2 \frac{d^2 y}{dx^2} \right)^3 = 7$, है तो अवकल की कोटि एवं घात का योगफल है:

1. 3
2. 2
3. 5
4. 4

Options :

485584143297. 1
485584143298. 2
485584143299. 3
485584143300. 4

Question Number : 61 Question Id : 48558435826 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

The equation of the curve whose slope is given by $\frac{dy}{dx} = \frac{4x}{y}$, $x > 0$, $y > 0$ and which passes through the point (2, 2) is:

1. $y^2 = 4x^2 - 12$

2. $x^2 = 4y^2 - 12$

3. $y^2 = 4x^2 + 12$

4. $x^2 = 4y^2 + 12$

Options :

485584143301. 1

485584143302. 2

485584143303. 3

485584143304. 4

Question Number : 61 Question Id : 48558435826 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

इस वक्र का समीकरण जिसकी प्रवणता $\frac{dy}{dx} = \frac{4x}{y}$, $x > 0$, $y > 0$ हो तथा जो बिंदु (2, 2) से गुजरता हो:

1. $y^2 = 4x^2 - 12$

2. $x^2 = 4y^2 - 12$

3. $y^2 = 4x^2 + 12$

4. $x^2 = 4y^2 + 12$

Options :

485584143301. 1

485584143302. 2

485584143303. 3

485584143304. 4

Question Number : 62 Question Id : 48558435827 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

A random variable has the following probability distribution

$X = x_i$	2	3	4	5
$P(X = x_i)$	4k	k	5k	2k

The value of $P(X < 3)$ is:

1. $\frac{1}{12}$

2. $\frac{1}{3}$

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

4. $\frac{5}{12}$

Options :

485584143305. 1

485584143306. 2

485584143307. 3

485584143308. 4

Question Number : 62 Question Id : 48558435827 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

एक यादृच्छिक चर का प्रायिकता बंटन नीचे दिया गया है।

$X = x_i$	2	3	4	5
$P(X = x_i)$	4k	k	5k	2k

$P(X < 3)$ का मान है:

1. $\frac{1}{12}$

2. $\frac{1}{3}$

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

4. $\frac{5}{12}$

Options :

485584143305. 1

485584143306. 2
485584143307. 3
485584143308. 4

Question Number : 63 Question Id : 48558435828 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

If a discrete random variable X has the following probability distribution:

X	$\frac{2}{3}$	1	$\frac{4}{3}$
P(X)	c^2	c^2	c

then c is:

1. $\frac{1}{2}$
2. $\frac{1}{3}$
3. $\frac{1}{4}$
4. $\frac{1}{5}$

Options :

485584143309. 1
485584143310. 2
485584143311. 3
485584143312. 4

Question Number : 63 Question Id : 48558435828 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

यदि असंतत यादृच्छिक चर X का प्रायिकता बंटन निम्न है:

X	$\frac{2}{3}$	1	$\frac{4}{3}$
$P(X)$	c^2	c^2	c

तो c का मान है:

1. $\frac{1}{2}$

2. $\frac{1}{3}$

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

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

Options :

485584143309. 1

485584143310. 2

485584143311. 3

485584143312. 4

Question Number : 64 Question Id : 48558435829 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

The maximum value of $Z = 3x + 4y$ subject to constraint $x + y \leq 6, x, y \geq 0$ is :

1. 18

2. 20

3. 22

4. 24

Options :

485584143313. 1

485584143314. 2

485584143315. 3

485584143316. 4

Question Number : 64 Question Id : 48558435829 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

व्यवरोधों $x + y \leq 6$, $x, y \geq 0$ के अन्तर्गत $Z = 3x + 4y$ का अधिकतम मान है:

1. 18
2. 20
3. 22
4. 24

Options :

485584143313. 1
485584143314. 2
485584143315. 3
485584143316. 4

Question Number : 65 Question Id : 48558435830 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

For the problem $\max Z = ax + by$, $x \geq 0$, $y \geq 0$, which of the following is **NOT** a valid constraint to make it a linear programming problem?

1. $x \leq 5$, $y \leq 10$
2. $2x + 3y \leq 60$
3. $x + 2y \leq 40$
4. $x^2 + y \leq 50$

Options :

485584143317. 1
485584143318. 2
485584143319. 3
485584143320. 4

Question Number : 65 Question Id : 48558435830 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

समस्या अधिकतमीकरण $Z = ax + by, x \geq 0, y \geq 0$ के लिये,इसे रैखिक प्रोग्रामन समस्या बनाने के लिए, निम्नलिखित में से कौन सा एक वैध व्यरोध नहीं है।

1. $x \leq 5, y \leq 10$

2. $2x + 3y \leq 60$

3. $x + 2y \leq 40$

4. $x^2 + y \leq 50$

Options :

485584143317. 1

485584143318. 2

485584143319. 3

485584143320. 4

Core Mathematics

Section Id :	485584931
Section Number :	2
Section type :	Online
Mandatory or Optional :	Optional
Number of Questions :	35
Number of Questions to be attempted :	25
Section Marks :	125
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	4855842648
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 66 Question Id : 48558435831 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

For real numbers a and b , define aRb if $b - a + \sqrt{5}$ is an irrational number. Then the relation R is:

1. Symmetric
2. Reflexive
3. Transitive
4. Equivalence

Options :

485584143321. 1
485584143322. 2
485584143323. 3
485584143324. 4

Question Number : 66 Question Id : 48558435831 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

a तथा b वास्तविक संख्याओं के लिए, aRb इस प्रकार परिभाषित है कि $b - a + \sqrt{5}$ अपरिमेय संख्या हैं तो संबंध R होगा:

1. सममित
2. स्वतुल्य
3. संक्रामक
4. तुल्यता

Options :

485584143321. 1
485584143322. 2
485584143323. 3
485584143324. 4

Question Number : 67 Question Id : 48558435832 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The domain of the function $f(x) = \log(x^2 - 4)$ is :

1. $[2, \infty)$
2. $(-\infty, -2) \cup (2, \infty)$
3. $(2, \infty)$
4. $(-\infty, -2] \cup (-2, -1)$

Options :

485584143325. 1
485584143326. 2
485584143327. 3
485584143328. 4

Question Number : 67 Question Id : 48558435832 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

फलन $f(x) = \log(x^2 - 4)$ का प्रांत है:

1. $[2, \infty)$
2. $(-\infty, -2) \cup (2, \infty)$
3. $(2, \infty)$
4. $(-\infty, -2] \cup (-2, -1)$

Options :

485584143325. 1
485584143326. 2
485584143327. 3
485584143328. 4

Question Number : 68 Question Id : 48558435833 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

Domain of function $f(x) = \cos^{-1} \sqrt{2x-1}$ is

1. $[-1, 1]$
2. $\left(\frac{1}{2}, 1\right]$
3. $\left[\frac{1}{2}, 1\right]$
4. $\left[\frac{1}{2}, 1\right)$

Options :

485584143329. 1
485584143330. 2
485584143331. 3
485584143332. 4

Question Number : 68 Question Id : 48558435833 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :



Key	Value
Comprehension	MCQ2

फलन $f(x) = \cos^{-1} \sqrt{2x-1}$ का प्रान्त है

1. $[-1,1]$

2. $\left(\frac{1}{2}, 1\right]$

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

4. $\left[\frac{1}{2}, 1\right)$

Options :

485584143329. 1

485584143330. 2

485584143331. 3

485584143332. 4

Question Number : 69 Question Id : 48558435834 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The value of $\tan(\cos^{-1}x)$ is:

1. $\frac{1}{x}$

2. $\frac{\sqrt{1-x^2}}{x}$

3. $\frac{\sqrt{1+x^2}}{x}$

4. $\frac{x}{\sqrt{1-x^2}}$

Options :

485584143333. 1

485584143334. 2

485584143335. 3

485584143336. 4

Question Number : 69 Question Id : 48558435834 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0



Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

$\tan(\cos^{-1}x)$ का मान है:

1. $\frac{1}{x}$

2. $\frac{\sqrt{1-x^2}}{x}$

3. $\frac{\sqrt{1+x^2}}{x}$

4. $\frac{x}{\sqrt{1-x^2}}$

Options :

485584143333. 1

485584143334. 2

485584143335. 3

485584143336. 4

Question Number : 70 Question Id : 48558435835 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

If the matrix $\begin{bmatrix} x-y & 1 & -2 \\ 2x-y & 0 & 3 \\ 2 & -3 & 0 \end{bmatrix}$ is skew-symmetric, then values of x and y are respectively

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

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

3. 1, 1

4. -1, -1

Options :

485584143337. 1

485584143338. 2

485584143339. 3

485584143340. 4

Question Number : 70 Question Id : 48558435835 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

यदि आव्यूह $\begin{bmatrix} x-y & 1 & -2 \\ 2x-y & 0 & 3 \\ 2 & -3 & 0 \end{bmatrix}$ विषम सममित है तो x तथा y का क्रमशः मान होगा

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

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

3. $1, 1$

4. $-1, -1$

Options :

485584143337. 1

485584143338. 2

485584143339. 3

485584143340. 4

Question Number : 71 Question Id : 48558435836 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

If $A = \begin{bmatrix} 2 & 3 \\ -1 & 1 \end{bmatrix}$ and $A^2 - 3A + kI = 0$ then the value of k is:

1. -5

2. 3

3. 5

4. -3

Options :

485584143341. 1

485584143342. 2

485584143343. 3

485584143344. 4



Question Number : 71 Question Id : 48558435836 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

यदि $A = \begin{bmatrix} 2 & 3 \\ -1 & 1 \end{bmatrix}$ तथा $A^2 - 3A + kI = 0$ है तो k का मान होगा-

1. -5
2. 3
3. 5
4. -3

Options :

485584143341. 1
485584143342. 2
485584143343. 3
485584143344. 4

Question Number : 72 Question Id : 48558435837 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

If $A = \begin{bmatrix} 1 & \sqrt{3} & 0 \\ -\sqrt{3} & 1 & 0 \\ 0 & 0 & 2 \end{bmatrix}$ and $B = \begin{bmatrix} \sqrt{3} & 1 & 0 \\ -1 & \sqrt{3} & 0 \\ 0 & 0 & 2 \end{bmatrix}$ then AB is equal to :

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

Options :

485584143345. 1
485584143346. 2
485584143347. 3
485584143348. 4

Question Number : 72 Question Id : 48558435837 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

यदि $A = \begin{bmatrix} 1 & \sqrt{3} & 0 \\ -\sqrt{3} & 1 & 0 \\ 0 & 0 & 2 \end{bmatrix}$ तथा $B = \begin{bmatrix} \sqrt{3} & 1 & 0 \\ -1 & \sqrt{3} & 0 \\ 0 & 0 & 2 \end{bmatrix}$ तो AB बराबर होगा-

1. 4I

2. -4I

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

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

Options :

485584143345. 1

485584143346. 2

485584143347. 3

485584143348. 4

Question Number : 73 Question Id : 48558435838 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

Which of the following is a correct statement ?

1. Determinant is a rectangular arrangement of numbers.

2. Determinant is a square arrangement of numbers.

3. Determinant is a value assigned to a square arrangement of numbers in a specific manner

4. Determinant is sum of diagonals elements of a square arrangement of numbers

Options :

485584143349. 1

485584143350. 2

485584143351. 3

485584143352. 4

Question Number : 73 Question Id : 48558435838 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

निम्न में से कौनसा कथन सही है:

1. सारणिक, संख्याओं का आयतकर क्रम विन्यास है।
2. सारणिक, संख्याओं का वर्गाकार क्रम विन्यास है।
3. सारणिक, का मान संख्याओं को वर्गाकार क्रम विन्यास में विशेष प्रकार दर्शाने से आता है।
4. सारणिक, संख्याओं के वर्गाकार क्रम विन्यास में विकर्ण के अवयवों का योग होता है।

Options :

485584143349. 1
485584143350. 2
485584143351. 3
485584143352. 4

Question Number : 74 Question Id : 48558435839 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The value of the determinant $\begin{vmatrix} \cos^2 \theta & \cos \theta \sin \theta & 0 \\ -\sin \theta & \cos \theta & 0 \\ 0 & 0 & 1 \end{vmatrix}$ is equal to

1. 1
2. $\cos \theta$
3. $\cos 2\theta$
4. $\cos \theta - \sin \theta$

Options :

485584143353. 1
485584143354. 2
485584143355. 3
485584143356. 4

Question Number : 74 Question Id : 48558435839 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :



Key	Value
Comprehension	MCQ2

सारणिक $\begin{vmatrix} \cos^2 \theta & \cos \theta \sin \theta & 0 \\ -\sin \theta & \cos \theta & 0 \\ 0 & 0 & 1 \end{vmatrix}$ का मान है

1. 1
2. $\cos \theta$
3. $\cos 2\theta$
4. $\cos \theta - \sin \theta$

Options :

485584143353. 1
 485584143354. 2
 485584143355. 3
 485584143356. 4

Question Number : 75 Question Id : 48558435840 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

If $A = (2, 3)$, $B = (-1, 0)$, $C = (4, 6)$ then area of the parallelogram ABCD is:

1. 3
2. $\frac{3}{2}$
3. 6
4. 2

Options :

485584143357. 1
 485584143358. 2
 485584143359. 3
 485584143360. 4

Question Number : 75 Question Id : 48558435840 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

यदि $A = (2, 3)$, $B = (-1, 0)$, $C = (4, 6)$ है तो समान्तर चतुर्भुज ABCD का क्षेत्रफल होगा-

1. 3

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

3. 6

4. 2

Options :

485584143357. 1

485584143358. 2

485584143359. 3

485584143360. 4

Question Number : 76 Question Id : 48558435841 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

$$\text{Let } f(x) = \begin{cases} 2x-1, & x < 1 \\ 1, & x = 1 \\ x^2, & x > 1 \end{cases}$$

then at $x = 1$

1. $f(x)$ is continuous from left only

2. $f(x)$ is continuous from right only

3. $f(x)$ is continuous

4. $f(x)$ has removable discontinuity

Options :

485584143361. 1

485584143362. 2

485584143363. 3

485584143364. 4

Question Number : 76 Question Id : 48558435841 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

$$\text{यदि } f(x) = \begin{cases} 2x-1, & x < 1 \\ 1, & x = 1 \\ x^2, & x > 1 \end{cases}$$

तो $x = 1$ पर

1. $f(x)$ केवल बाएं तरफ संतत है
2. $f(x)$ केवल दाएं तरफ संतत है
3. $f(x)$ संतत है
4. $f(x)$ अपनेय असांतत्य है

Options :

485584143361. 1
485584143362. 2
485584143363. 3
485584143364. 4

Question Number : 77 Question Id : 48558435842 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

If $x = e^{y+e^y+\dots}$ to ∞ , $x > 0$ then $\frac{d^2y}{dx^2}$ is:

1. $-x^2$
2. $-\frac{1}{x^2}$
3. $\frac{1}{x^2}$
4. x^2

Options :

485584143365. 1
485584143366. 2
485584143367. 3
485584143368. 4

Question Number : 77 Question Id : 48558435842 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :



Key	Value
Comprehension	MCQ2

यदि $x = e^y + e^{y+\dots}$ to ∞ , $x > 0$ है तो $\frac{d^2y}{dx^2}$ का मान है-

1. $-x^2$

2. $-\frac{1}{x^2}$

3. $\frac{1}{x^2}$

4. x^2

Options :

485584143365. 1

485584143366. 2

485584143367. 3

485584143368. 4

Question Number : 78 Question Id : 48558435843 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The derivative of $f(\cot x)$ with respect to $g(\operatorname{cosec} x)$ at $x = \frac{\pi}{4}$ (where $f'(1) = 2, g'(\sqrt{2}) = 4$) is:

1. $\sqrt{2}$

2. 1

3. $\frac{1}{\sqrt{2}}$

4. $\frac{1}{2\sqrt{2}}$

Options :

485584143369. 1

485584143370. 2

485584143371. 3

485584143372. 4

Question Number : 78 Question Id : 48558435843 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2



$x = \frac{\pi}{4}$ (जहाँ $f'(1) = 2.g'(\sqrt{2}) = 4$) पर $g(\operatorname{cosec} x)$ के सापेक्ष $f(\cot x)$ का अवकलन होगा-

1. $\sqrt{2}$

2. 1

3. $\frac{1}{\sqrt{2}}$

4. $\frac{1}{2\sqrt{2}}$

Options :

485584143369. 1

485584143370. 2

485584143371. 3

485584143372. 4

Question Number : 79 Question Id : 48558435844 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The values of b for which the function $f(x) = \cos x + bx + a$ decreases on R are

1. $[-1, 1]$

2. $(-\infty, 1]$

3. $(-\infty, -1]$

4. $(-1, 1)$

Options :

485584143373. 1

485584143374. 2

485584143375. 3

485584143376. 4

Question Number : 79 Question Id : 48558435844 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

b के किस मान पर फलन $f(x) = \cos x + bx + a$ सभी वास्तविक संख्याओं पर ह्रासमान है-

1. $[-1, 1]$
2. $(-\infty, 1]$
3. $(-\infty, -1]$
4. $(-1, 1)$

Options :

485584143373. 1
485584143374. 2
485584143375. 3
485584143376. 4

Question Number : 80 Question Id : 48558435845 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The equation of the normal to the curve $y = 2\sin x$ at $(0, 0)$ is:

1. $x + \frac{1}{2}y = 0$
2. $x - 2y = 0$
3. $x - \frac{1}{2}y = 0$
4. $x + 2y = 0$

Options :

485584143377. 1
485584143378. 2
485584143379. 3
485584143380. 4

Question Number : 80 Question Id : 48558435845 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

वक्र $y = 2\sin x$ के बिन्दू $(0, 0)$ पर अभिलंब का समीकरण है:

1. $x + \frac{1}{2}y = 0$

2. $x - 2y = 0$

3. $x - \frac{1}{2}y = 0$

4. $x + 2y = 0$

Options :

485584143377. 1

485584143378. 2

485584143379. 3

485584143380. 4

Question Number : 81 Question Id : 48558435846 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The function $f(x) = \frac{x^4}{4} - \frac{x^2}{2}$ has

1. 2 points of local maxima

2. 2 points of local minima and one point of local maxima

3. 1 point of local minima and 2 points of local maximum

4. 1 point of local maxima and 1 point of local minima

Options :

485584143381. 1

485584143382. 2

485584143383. 3

485584143384. 4

Question Number : 81 Question Id : 48558435846 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

फलन $f(x) = \frac{x^4}{4} - \frac{x^2}{2}$ में

1. स्थानीय उच्चिष्ठ के दो बिन्दू
2. स्थानीय निम्निष्ठ के दो तथा स्थानीय उच्चिष्ठ का एक बिन्दू
3. स्थानीय निम्निष्ठ का एक तथा स्थानीय उच्चिष्ठ के दो बिन्दू
4. स्थानीय उच्चिष्ठ का एक तथा स्थानीय निम्निष्ठ का एक बिन्दू

Options :

485584143381. 1
485584143382. 2
485584143383. 3
485584143384. 4

Question Number : 82 Question Id : 48558435847 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The value of $\int_{-1}^1 x^2 [x] dx$ is:

1. $\frac{1}{3}$
2. $\frac{2}{3}$
3. 1
4. $-\frac{1}{3}$

Options :

485584143385. 1
485584143386. 2
485584143387. 3
485584143388. 4

Question Number : 82 Question Id : 48558435847 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

$\int_{-1}^1 x^2 [x] dx$ का मान है:

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

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

3. 1

4. $-\frac{1}{3}$

Options :

485584143385. 1

485584143386. 2

485584143387. 3

485584143388. 4

Question Number : 83 Question Id : 48558435848 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The value of $\int_{-3}^2 x^2 |2x| dx$ is:

1. 65

2. $-\frac{65}{2}$

3. 97

4. $\frac{97}{2}$

Options :

485584143389. 1

485584143390. 2

485584143391. 3

485584143392. 4

Question Number : 83 Question Id : 48558435848 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2



$\int_{-3}^2 x^2 |2x| dx$ का मान है-

1. 65

2. $-\frac{65}{2}$

3. 97

4. $\frac{97}{2}$

Options :

485584143389. 1

485584143390. 2

485584143391. 3

485584143392. 4

Question Number : 84 Question Id : 48558435849 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

Area lying between the curves $y^2 = 9x$ and $y = 3x$ is:

1. $\frac{1}{4}$ sq. units

2. $\frac{1}{2}$ sq. units

3. $\frac{2}{3}$ sq. units

4. $\frac{1}{3}$ sq. units

Options :

485584143393. 1

485584143394. 2

485584143395. 3

485584143396. 4

Question Number : 84 Question Id : 48558435849 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2



वक्र $y^2 = 9x$ तथा $y = 3x$ से घिरे क्षेत्र का क्षेत्रफल है:

1. $\frac{1}{4}$ sq. units
2. $\frac{1}{2}$ sq. units
3. $\frac{2}{3}$ sq. units
4. $\frac{1}{3}$ sq. units

Options :

485584143393. 1
485584143394. 2
485584143395. 3
485584143396. 4

Question Number : 85 Question Id : 48558435850 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

Area lying in first quadrant and bounded by the circle $x^2 + y^2 = 9$ and the lines $x = 1$ and $x = 3$ is:

1. $\left| \frac{9\pi}{2} - \sqrt{2} - \frac{9}{4} \sin^{-1} \frac{1}{3} \right|$ sq. units
2. $\left| 9\pi - \sqrt{2} - \frac{9}{2} \sin^{-1} \frac{1}{3} \right|$ sq. units
3. $\left| \frac{9\pi}{4} + \sqrt{2} - \frac{9}{2} \sin^{-1} \frac{1}{3} \right|$ sq. units
4. $\left| \frac{9\pi}{4} - \sqrt{2} - \frac{9}{2} \sin^{-1} \frac{1}{3} \right|$ sq. units

Options :

485584143397. 1
485584143398. 2
485584143399. 3
485584143400. 4

Question Number : 85 Question Id : 48558435850 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :



Key	Value
Comprehension	MCQ2

वृत्त $x^2 + y^2 = 9$ एवं रेखाओं $x = 1, x = 3$ से घिरे तथा प्रथम चतुर्थास में स्थित क्षेत्र का क्षेत्रफल होगा-

1. $\left| \frac{9\pi}{2} - \sqrt{2} - \frac{9}{4} \sin^{-1} \frac{1}{3} \right|$ sq. units

2. $\left| 9\pi - \sqrt{2} - \frac{9}{2} \sin^{-1} \frac{1}{3} \right|$ sq. units

3. $\left| \frac{9\pi}{4} + \sqrt{2} - \frac{9}{2} \sin^{-1} \frac{1}{3} \right|$ sq. units

4. $\left| \frac{9\pi}{4} - \sqrt{2} - \frac{9}{2} \sin^{-1} \frac{1}{3} \right|$ sq. units

Options :

485584143397. 1
 485584143398. 2
 485584143399. 3
 485584143400. 4

Question Number : 86 Question Id : 48558435851 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The integrating factor of $\sin x \frac{dy}{dx} + 2y \cos x = 4$ is:

1. $|\sin x|$

2. $|\sin x|^2$

3. $|\sin x^2|$

4. $|\cos x|$

Options :

485584143401. 1
 485584143402. 2
 485584143403. 3
 485584143404. 4

Question Number : 86 Question Id : 48558435851 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value



$\sin x \frac{dy}{dx} + 2y \cos x = 4$ का समाकलन गुणक है:

1. $|\sin x|$
2. $|\sin x|^2$
3. $|\sin x^2|$
4. $|\cos x|$

Options :

485584143401. 1
485584143402. 2
485584143403. 3
485584143404. 4

Question Number : 87 Question Id : 48558435852 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The solution of the differential equation $\frac{dy}{dx} = -\frac{x}{y}$ is:

1. $x^2 + y^2 = 2C$, where C is constant of integration.
2. $x - y^2 = 2C$, where C is constant of integration.
3. $x^2 + y = 2C$, where C is constant of integration.
4. $x^2 - y^2 = 2C$, where C is constant of integration.

Options :

485584143405. 1
485584143406. 2
485584143407. 3
485584143408. 4

Question Number : 87 Question Id : 48558435852 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

अवकल समीकरण $\frac{dy}{dx} = -\frac{x}{y}$ का हल है:

1. $x^2 + y^2 = 2C$, C एक समाकलन का अचर है।
2. $x - y^2 = 2C$, C एक समाकलन का अचर है।
3. $x^2 + y = 2C$, C एक समाकलन का अचर है।
4. $x^2 - y^2 = 2C$, C एक समाकलन का अचर है।

Options :

485584143405. 1
485584143406. 2
485584143407. 3
485584143408. 4

Question Number : 88 Question Id : 48558435853 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

If $|\vec{a}| = 5$, $|\vec{b}| = 2$ and $|\vec{a} \cdot \vec{b}| = 8$ then the value of $|\vec{a} \times \vec{b}|$ is:

1. 5
2. 6
3. 36
4. ± 6

Options :

485584143409. 1
485584143410. 2
485584143411. 3
485584143412. 4

Question Number : 88 Question Id : 48558435853 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

यदि $|\vec{a}|=5, |\vec{b}|=2$ तथा $|\vec{a} \cdot \vec{b}|=8$ तो $|\vec{a} \times \vec{b}|$ का मान है:

1. 5
2. 6
3. 36
4. ± 6

Options :

485584143409. 1
485584143410. 2
485584143411. 3
485584143412. 4

Question Number : 89 Question Id : 48558435854 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

If $|\vec{a} + \vec{b}| = 15, |\vec{a} - \vec{b}| = 10, |\vec{a}| = \frac{11}{2}$ then the value of $|\vec{b}|$ is/are :

1. $\frac{23}{2}$
2. $\pm \frac{23}{2}$
3. ± 23
4. $\frac{23}{\sqrt{2}}$

Options :

485584143413. 1
485584143414. 2
485584143415. 3
485584143416. 4

Question Number : 89 Question Id : 48558435854 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

यदि $|\vec{a} + \vec{b}| = 15$, $|\vec{a} - \vec{b}| = 10$, $|\vec{a}| = \frac{11}{2}$ तो $|\vec{b}|$ का मान है:

1. $\frac{23}{2}$

2. $\pm \frac{23}{2}$

3. ± 23

4. $\frac{23}{\sqrt{2}}$

Options :

485584143413. 1

485584143414. 2

485584143415. 3

485584143416. 4

Question Number : 90 Question Id : 48558435855 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The angle between the straight lines $\frac{x+4}{2} = \frac{y+5}{5} = \frac{z+6}{3}$ and $\frac{x-4}{10} = \frac{y-5}{2} = \frac{z-6}{-10}$ is

1. 45°

2. 90°

3. 30°

4. 60°

Options :

485584143417. 1

485584143418. 2

485584143419. 3

485584143420. 4

Question Number : 90 Question Id : 48558435855 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

सरल रेखाओं $\frac{x+4}{2} = \frac{y+5}{5} = \frac{z+6}{3}$ तथा $\frac{x-4}{10} = \frac{y-5}{2} = \frac{z-6}{-10}$ को मध्य कोण है:

1. 45°
2. 90°
3. 30°
4. 60°

Options :

485584143417. 1
485584143418. 2
485584143419. 3
485584143420. 4

Question Number : 91 Question Id : 48558435856 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The direction ratios of the line perpendicular to the lines $\frac{x-7}{-6} = \frac{y+17}{4} = \frac{z-6}{2}$ and $\frac{x+5}{6} = \frac{y+3}{3} = \frac{z-4}{-6}$ are proportional to:

1. 7, 4, 5
2. 7, 5, 4
3. 5, 7, 4
4. 5, 4, 7

Options :

485584143421. 1
485584143422. 2
485584143423. 3
485584143424. 4

Question Number : 91 Question Id : 48558435856 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

रेखाओं $\frac{x-7}{-6} = \frac{y+17}{4} = \frac{z-6}{2}$ तथा $\frac{x+5}{6} = \frac{y+3}{3} = \frac{z-4}{-6}$ के लम्ब रेखा का दिक्-अनुपात होगा-

1. 7, 4, 5
2. 7, 5, 4
3. 5, 7, 4
4. 5, 4, 7

Options :

485584143421. 1
485584143422. 2
485584143423. 3
485584143424. 4

Question Number : 92 Question Id : 48558435857 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The maximum value of $Z = 2x + 3y$ subject to the constraints $x \geq 0, y \geq 0; x + y \leq 10, 3x + 4y \leq 36$ is:

1. 20
2. 27
3. 30
4. 0

Options :

485584143425. 1
485584143426. 2
485584143427. 3
485584143428. 4

Question Number : 92 Question Id : 48558435857 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

व्यवधानों $x \geq 0, y \geq 0; x + y \leq 10, 3x + 4y \leq 36$ के अन्तर्गत $Z = 2x + 3y$ का अधिकतम मान है:

1. 20
2. 27
3. 30
4. 0

Options :

485584143425. 1
485584143426. 2
485584143427. 3
485584143428. 4

Question Number : 93 Question Id : 48558435858 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

For the LPP, Min $Z = 5x + 7y$ subject to $x \geq 0, y \geq 0; 2x + y \geq 8, x + 2y \geq 10$, the basic feasible solutions are:

1. (0, 0), (10, 0), (2, 4) and (0, 8)
2. (10, 0), (2, 4) and (0, 8)
3. (0, 0), (0, 10), (2, 4) and (8, 0)
4. (0, 10), (4, 2) and (8, 0)

Options :

485584143429. 1
485584143430. 2
485584143431. 3
485584143432. 4

Question Number : 93 Question Id : 48558435858 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

LPP के लिये, व्यक्तियों $x \geq 0, y \geq 0; 2x + y \geq 8, x + 2y \geq 10$ के अन्तर्गत $Z = 5x + 7y$ के न्यूनतम के लिए, सामान्य सुसंगत हल है:

1. (0, 0), (10, 0), (2, 4) तथा (0, 8)
2. (10, 0), (2, 4) तथा (0, 8)
3. (0, 0), (0, 10), (2, 4) तथा (8, 0)
4. (0, 10), (4, 2) तथा (8, 0)

Options :

485584143429. 1
485584143430. 2
485584143431. 3
485584143432. 4

Question Number : 94 Question Id : 48558435859 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

A bag contains 12 white and 18 red balls. Two balls are drawn in succession without replacement. The probability that the first is red and second is white is:

1. $\frac{63}{145}$
2. $\frac{36}{154}$
3. $\frac{36}{144}$
4. $\frac{36}{145}$

Options :

485584143433. 1
485584143434. 2
485584143435. 3
485584143436. 4

Question Number : 94 Question Id : 48558435859 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2



एक थैले में 12 सफेद तथा 18 लाल गेंदें हैं। दो गेंद बिना प्रतिस्थापन के उत्तरोत्तर निकाली गईं तो पहली गेंद के लाल तथा दूसरी के सफेद होने की प्रायिकता होगी-

1. $\frac{63}{145}$

2. $\frac{36}{154}$

3. $\frac{36}{144}$

4. $\frac{36}{145}$

Options :

485584143433. 1

485584143434. 2

485584143435. 3

485584143436. 4

Question Number : 95 Question Id : 48558435860 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

If A and B are events such that $P(A' \cup B') = \frac{1}{3}$ and $P(A \cup B) = \frac{4}{9}$ then the value of $P(A') + P(B')$ is:

1. 1

2. $\frac{7}{9}$

3. $\frac{8}{9}$

4. $\frac{5}{9}$

Options :

485584143437. 1

485584143438. 2

485584143439. 3

485584143440. 4

Question Number : 95 Question Id : 48558435860 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
-----	-------



A तथा B इस प्रकार से घटित हैं कि $P(A' \cup B') = \frac{1}{3}$ तथा $P(A \cup B) = \frac{4}{9}$ तो $P(A') + P(B')$ का मान होगा-

1. 1

2. $\frac{7}{9}$

3. $\frac{8}{9}$

4. $\frac{5}{9}$

Options :

485584143437. 1

485584143438. 2

485584143439. 3

485584143440. 4

Sub-Section Number :

2

Sub-Section Id :

4855842649

Question Shuffling Allowed :

No

Is Section Default? :

null

Question Number : 96 Question Id : 48558435861 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp1

Let $f: \mathbb{R} \rightarrow \mathbb{R}$ be defined by $f(x) = x^2$, for every $x \in \mathbb{R}$. Then f is:

1. one-one and onto

2. one-one and not onto

3. neither one-one nor onto

4. onto and not one-one

Options :

485584143441. 1

485584143442. 2

485584143443. 3

485584143444. 4

Question Number : 96 Question Id : 48558435861 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
-----	-------



मान लीजिए कि $f: \mathbb{R} \rightarrow \mathbb{R}$, $f(x) = x^2$, द्वारा परिभाषित है। जहाँ $x \in \mathbb{R}$, तो f हैं:

1. एकैकी तथा आच्छादक
2. एकैकी किंतु आच्छादक नहीं
3. न तो एकैकी और न आच्छादक
4. आच्छादक है किन्तु एकैकी नहीं

Options :

485584143441. 1
485584143442. 2
485584143443. 3
485584143444. 4

Question Number : 97 Question Id : 48558435862 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp1

Match List I with List II

LIST I		LIST II	
A.	$\frac{d}{dx} \left[\tan^{-1} \left(\frac{3x - x^3}{1 - 3x^2} \right) \right]$	I.	$\frac{3}{1 + x^2}$
B.	$\frac{d}{dx} \left[\cos^{-1} \left(\frac{1 - x^2}{1 + x^2} \right) \right]$	II.	$\frac{-3}{1 + x^2}$
C.	$\frac{d}{dx} \left[\cos^{-1} \left(\frac{2x}{1 + x^2} \right) \right]$	III.	$\frac{-2}{1 + x^2}$
D.	$\frac{d}{dx} \left[\cot^{-1} \left(\frac{3x - x^3}{1 - 3x^2} \right) \right]$	IV.	$\frac{2}{1 + x^2}$

Choose the correct answer from the options given below:

1. A-II, B-III, C-I, D-IV
2. A-IV, B-II, C-I, D-III
3. A-III, B-I, C-IV, D-II
4. A-I, B-IV, C-III, D-II

Options :

485584143445. 1
485584143446. 2

485584143447. 3
485584143448. 4

Question Number : 97 Question Id : 48558435862 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp1

सूची I का सूची II से मिलान कीजिए

सूची I		सूची II	
A.	$\frac{d}{dx} \left[\tan^{-1} \left(\frac{3x-x^3}{1-3x^2} \right) \right]$	I.	$\frac{3}{1+x^2}$
B.	$\frac{d}{dx} \left[\cos^{-1} \left(\frac{1-x^2}{1+x^2} \right) \right]$	II.	$\frac{-3}{1+x^2}$
C.	$\frac{d}{dx} \left[\cos^{-1} \left(\frac{2x}{1+x^2} \right) \right]$	III.	$\frac{-2}{1+x^2}$
D.	$\frac{d}{dx} \left[\cot^{-1} \left(\frac{3x-x^3}{1-3x^2} \right) \right]$	IV.	$\frac{2}{1+x^2}$

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए:

1. A-II, B-III, C-I, D-IV
2. A-IV, B-II, C-I, D-III
3. A-III, B-I, C-IV, D-II
4. A-I, B-IV, C-III, D-II

Options :

485584143445. 1
485584143446. 2
485584143447. 3
485584143448. 4

Question Number : 98 Question Id : 48558435863 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp1

The points of non differentiability of $f(x) = |x - 2| + |x - 3|$

- A. 1
- B. 2
- C. 3
- D. 4
- E. 5

Choose the correct answer from the options given below:

- 1. A and B only
- 2. B and C only
- 3. A and C only
- 4. A and D only

Options :

- 485584143449. 1
- 485584143450. 2
- 485584143451. 3
- 485584143452. 4

Question Number : 98 Question Id : 48558435863 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp1

$f(x) = |x - 2| + |x - 3|$ के वे बिन्दु जिन पर अवकलनीय नहीं है:

- A. 1
- B. 2
- C. 3
- D. 4
- E. 5

नीचे दिये विकल्पों से सही उत्तर का चयन करें:

- 1. केवल A और B
- 2. केवल B और C
- 3. केवल A और C
- 4. केवल A और D

Options :

- 485584143449. 1
- 485584143450. 2
- 485584143451. 3

Question Number : 99 Question Id : 48558435864 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Compl

The value of $\int \frac{dx}{x^2 - 6x + 13}$ is :

1. $\frac{1}{2} \tan^{-1} \frac{x-3}{2} + C$, where C is constant of integration.
2. $\frac{1}{2} \cot^{-1} \frac{x-3}{2} + C$, where C is constant of integration.
3. $\frac{1}{2} \tan^{-1} \frac{x+3}{2} + C$, where C is constant of integration.
4. $\frac{1}{2} \cot^{-1} \frac{x+3}{2} + C$, where C is constant of integration.

Options :

485584143453. 1
485584143454. 2
485584143455. 3
485584143456. 4

Question Number : 99 Question Id : 48558435864 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Compl

$\int \frac{dx}{x^2 - 6x + 13}$ मान है :

1. $\frac{1}{2} \tan^{-1} \frac{x-3}{2} + C$, C एक समाकलन का अचर है।
2. $\frac{1}{2} \cot^{-1} \frac{x-3}{2} + C$, C एक समाकलन का अचर है।
3. $\frac{1}{2} \tan^{-1} \frac{x+3}{2} + C$, C एक समाकलन का अचर है।
4. $\frac{1}{2} \cot^{-1} \frac{x+3}{2} + C$, C एक समाकलन का अचर है।

Options :

485584143453. 1
 485584143454. 2
 485584143455. 3
 485584143456. 4

Question Number : 100 Question Id : 48558435865 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp1

If \vec{x} and \vec{y} are two collinear vectors, then which of the following are incorrect ?

- $\vec{x} = \pm \vec{y}$
- $\vec{y} = \lambda \vec{x}$, for some scalar λ
- Both the vectors \vec{x} and \vec{y} have same direction, but different magnitudes.
- the respective components of \vec{x} and \vec{y} are not proportional

Options :

485584143457. 1
 485584143458. 2
 485584143459. 3
 485584143460. 4

Question Number : 100 Question Id : 48558435865 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp1

यदि \vec{x} तथा \vec{y} दो सरिखीय सदिश हैं तो निम्न में से कौन सही नहीं है

- $\vec{x} = \pm \vec{y}$
- $\vec{y} = \lambda \vec{x}$, λ अदिश है
- दोनों सदिश \vec{x} तथा \vec{y} एक ही दिशा में है परन्तु मापांक भिन्न है
- \vec{x} और \vec{y} के सापेक्ष घटक समानुपात नहीं है

Options :

485584143457. 1
 485584143458. 2
 485584143459. 3

Applied Mathematics

Section Id :	485584932
Section Number :	3
Section type :	Online
Mandatory or Optional :	Optional
Number of Questions :	35
Number of Questions to be attempted :	25
Section Marks :	125
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	4855842650
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 101 Question Id : 48558435866 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

The present value (in ₹.) of a perpetuity of ₹.3600 payable at the end of each quarter, if the interest rate is 9% per annum compounded quarterly, is:

1. ₹2,40,000
2. ₹1,60,000
3. ₹2,00,000
4. ₹3,20,000

Options :

485584143461. 1
 485584143462. 2
 485584143463. 3
 485584143464. 4

Question Number : 101 Question Id : 48558435866 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

प्रत्येक तिमाही के अंत में देय एक सतत राशि ₹.3600 का वर्तमान मूल्य यदि वार्षिक ब्याज दर 9% हो जो तियाही चक्रवृद्धि है,हैं:

1. ₹2,40,000
2. ₹1,60,000
3. ₹2,00,000
4. ₹3,20,000

Options :

485584143461. 1
485584143462. 2
485584143463. 3
485584143464. 4

Question Number : 102 Question Id : 48558435867 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

If the present value of a perpetuity of ₹600 payable at the end of every six months is ₹18000, then the rate of interest is:

1. $\frac{20}{3}$ % per annum
2. $\frac{22}{3}$ % per annum
3. $\frac{17}{3}$ % per annum
4. $\frac{10}{3}$ % per annum

Options :

485584143465. 1
485584143466. 2
485584143467. 3
485584143468. 4

Question Number : 102 Question Id : 48558435867 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

प्रत्येक छः मास के अंत में देय सतत राशि ₹600 का वर्तमान मूल्य ₹18000 है तो ब्याज की दर होगी:

1. $\frac{20}{3}\%$ प्रतिवर्ष
2. $\frac{22}{3}\%$ प्रतिवर्ष
3. $\frac{17}{3}\%$ प्रतिवर्ष
4. $\frac{10}{3}\%$ प्रतिवर्ष

Options :

485584143465. 1
485584143466. 2
485584143467. 3
485584143468. 4

Question Number : 103 Question Id : 48558435868 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

In a 800 m race, A beats B by 74 m and in a 600 m race, B beats C by 50 m. By how many meters will A beat C in a race of 800 m?

1. 234.5 m
2. 84.06 m
3. 134.5 m
4. 665.5 m

Options :

485584143469. 1
485584143470. 2
485584143471. 3
485584143472. 4

Question Number : 103 Question Id : 48558435868 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

800 मीटर की एक दौड़ में A, B को 74 मीटर से हराता है। 600 मीटर की एक दौड़ में B, C 50 मीटर से हराता है तो 800 मीटर की दौड़ में A, C को कितने मीटर से हरायेगा।

1. 234.5 मीटर
2. 84.06 मीटर
3. 134.5 मीटर
4. 665.5 मीटर

Options :

485584143469. 1
485584143470. 2
485584143471. 3
485584143472. 4

Question Number : 104 Question Id : 48558435869 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

For the data

Variable	Price		Weights
	Base year	Current year	
X	30	50	8
Y	10	15	7
Z	25	30	4

The weighted price index number is:

1. 152.44
2. 150.44
3. 154.44
4. 156.44

Options :

485584143473. 1
485584143474. 2
485584143475. 3
485584143476. 4

Question Number : 104 Question Id : 48558435869 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
-----	-------



दिये हुए आँकड़ों के लिये

चर	कीमत		भार
	आधार वर्ष	वर्तमान वर्ष	
X	30	50	8
Y	10	15	7
Z	25	30	4

भारित मूल्य सूचकांक है:

1. 152.44
2. 150.44
3. 154.44
4. 156.44

Options :

485584143473. 1
485584143474. 2
485584143475. 3
485584143476. 4

Question Number : 105 Question Id : 48558435870 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

A, B and C are partners in a business. A receives $\frac{3}{5}$ of the total profit while B and C share the remainder equally. A's profit is increased by ₹1,500, when the rate of profit is increased from 10% to 12% in a year. Then, B's share in the total profit is:

1. ₹2,500
2. ₹3,000
3. ₹1,500
4. ₹1,000

Options :

485584143477. 1
485584143478. 2
485584143479. 3
485584143480. 4

Question Number : 105 Question Id : 48558435870 Question Type : MCQ Option Shuffling : No No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0



Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

A, B तथा C एक व्यापार में साझेदार हैं। A को कुल लाभ का $\frac{3}{5}$ मिलता है जबकि B तथा C को शेष लाभ का बराबर-बराबर मिलता है। जब एक वर्ष में लाभ की दर 10% से 12% बढ़ जाती है तब A का लाभ ₹1,500 बढ़ जाता है। तब कुल लाभ में B का हिस्सा है:

1. ₹2,500
2. ₹3,000
3. ₹1,500
4. ₹1,000

Options :

485584143477. 1
485584143478. 2
485584143479. 3
485584143480. 4

Question Number : 106 Question Id : 48558435871 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

A loan of ₹200000 at the interest rate of 6% p.a. compounded monthly is to be amortized by equal payments at the end of each month for 5 years. The monthly payment is:

[Given $(1.005)^{-60} = 0.74137220$]

1. ₹1,866.57
2. ₹4,886.57
3. ₹3,866.57
4. ₹2,866.57

Options :

485584143481. 1
485584143482. 2
485584143483. 3
485584143484. 4

Question Number : 106 Question Id : 48558435871 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :



Key	Value
Comprehension	MCQ3

एक ₹200000 का ऋण 6% वार्षिक ब्याज दर पर मासिक चक्रबृद्धि से 5 वर्षों तक प्रत्येक मास के अंत में समान किश्त के रूप में देय है। मासिक देय होगी:
[दिया है $(1.005)^{-60} = 0.74137220$]

1. ₹1,866.57
2. ₹4,886.57
3. ₹3,866.57
4. ₹2,866.57

Options :

485584143481. 1
485584143482. 2
485584143483. 3
485584143484. 4

Question Number : 107 Question Id : 48558435872 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

In reference to sampling, match List I with List II

LIST I		LIST II	
A.	Measure of a characteristic of a sample	I.	Parameter
B.	An assumption made about a population	II.	Standard Error
C.	Standard deviation of the sample	III.	Statistic
D.	Measure of characteristic of a population	IV.	Null Hypothesis

Choose the correct answer from the options given below:

1. A-II, B-III, C-I, D-IV
2. A-III, B-IV, C-II, D-I
3. A-II, B-IV, C-III, D-I
4. A-II, B-III, C-IV, D-I

Options :

485584143485. 1
485584143486. 2
485584143487. 3
485584143488. 4

Question Number : 107 Question Id : 48558435872 Question Type : MCQ Option Shuffling : No No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0



Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

सूची I का सूची II से मिलान कीजिए:

सूची I		सूची II	
A.	नमूने के अभिलक्षणिक का माप	I.	प्राचल
B.	समष्टि के बारे में अवमानना	II.	मानक ऋटि
C.	नमूने का मानक विचलन	III.	सांख्यिकी
D.	समष्टि के अभिलक्षणिक का माप	IV.	शून्य परिकल्पना

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए :

1. A-II, B-III, C-I, D-IV
2. A-III, B-IV, C-II, D-I
3. A-II, B-IV, C-III, D-I
4. A-II, B-III, C-IV, D-I

Options :

485584143485. 1
485584143486. 2
485584143487. 3
485584143488. 4

Question Number : 108 Question Id : 48558435873 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

Mr. A took a loan of ₹ 300000 at 10% annual interest rate and paid ₹ 5000 as monthly instalment under flat rate system. What is the term of the loan?

1. 12 years
2. 8 years
3. 10 years
4. 20 years

Options :

485584143489. 1
485584143490. 2
485584143491. 3

485584143492. 4

Question Number : 108 Question Id : 48558435873 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

श्रीमान A ने ₹ 300000 का ऋण 10% वार्षिक ब्याज की दर से लिया और निश्चित ब्याज दर से ₹ 5000 की मासिक किश्त से चुकाया। ऋण की समय-अवधि क्या है?

1. 12 वर्ष
2. 8 वर्ष
3. 10 वर्ष
4. 20 वर्ष

Options :

485584143489. 1
485584143490. 2
485584143491. 3
485584143492. 4

Question Number : 109 Question Id : 48558435874 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

The percent income of a year on 6% debentures of face value of ₹100 available in the market for ₹200 is:

1. 3%
2. 4%
3. 5%
4. 6%

Options :

485584143493. 1
485584143494. 2
485584143495. 3
485584143496. 4

Question Number : 109 Question Id : 48558435874 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :



Key	Value
Comprehension	MCQ3

₹100 अंकित मूल्य के 6% ऋणपत्रों, जिसका बाजार मूल्य ₹200 है तो उसकी एक वर्ष की प्रतिशत आय है:

1. 3%
2. 4%
3. 5%
4. 6%

Options :

485584143493. 1
485584143494. 2
485584143495. 3
485584143496. 4

Question Number : 110 Question Id : 48558435875 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

The effective rate equivalent to a nominal rate of 8% per annum compounded semi-annually is:

1. 8.20%
2. 8.24%
3. 8%
4. 8.16%

Options :

485584143497. 1
485584143498. 2
485584143499. 3
485584143500. 4

Question Number : 110 Question Id : 48558435875 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

सामान् दर 8% वार्षिक जो कि अर्धवार्षिक चक्रवृद्धि हो की प्रभावी दर होगी:

1. 8.20%
2. 8.24%
3. 8%
4. 8.16%

Options :

485584143497. 1
485584143498. 2
485584143499. 3
485584143500. 4

Question Number : 111 Question Id : 48558435876 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

Ravi takes 40 seconds whereas Vishnu takes 60 seconds to complete 240 metre race. By how many metres does Ravi defeat Vishnu ?

1. 80 metres
2. 60 metres
3. 70 metres
4. 50 metres

Options :

485584143501. 1
485584143502. 2
485584143503. 3
485584143504. 4

Question Number : 111 Question Id : 48558435876 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

240 मीटर की दौड़ रवि 40 सेकण्ड में जबकि विष्णु 60 सेकण्ड में पूरी करता है। रवि ने विष्णु को कितने मीटर से हराया?

1. 80 मीटर
2. 60 मीटर
3. 70 मीटर
4. 50 मीटर

Options :

485584143501. 1
485584143502. 2
485584143503. 3
485584143504. 4

Question Number : 112 Question Id : 48558435877 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

The price of five different commodities for year 2018 and 2019 are as follows:

Commodities	Price in 2018 (in ₹)	Price in 2019 (in ₹)
A	4	8
B	3	9
C	2	6
D	6	9
E	2	4

The price index number for the year 2019 with 2018 as the base year, using simple average of price relatives is:

1. 230
2. 203
3. 233
4. 320

Options :

485584143505. 1
485584143506. 2
485584143507. 3
485584143508. 4

Question Number : 112 Question Id : 48558435877 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0



Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

विभिन्न प्रकार की वस्तुओं की वर्ष 2018 तथा 2019 की कीमत निम्न है

वस्तुएँ	2018 में मूल्य (₹ में)	2019 में मूल्य (₹ में)
A	4	8
B	3	9
C	2	6
D	6	9
E	2	4

मूल्यों के सामान्य औसत के आधार पर 2018 का आधार वर्ष मानकर, वर्ष 2019 का मूल्य सूचकांक क्या होगा?

1. 230
2. 203
3. 233
4. 320

Options :

485584143505. 1
485584143506. 2
485584143507. 3
485584143508. 4

Question Number : 113 Question Id : 48558435878 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

A boat can row upstream at 10 km/h and downstream at 18 km/h. If m is the speed of boat in still water and n is the speed of stream then $m+n$ is:

1. 16 km/h
2. 18 km/h
3. 20 km/h
4. 14 km/h

Options :

485584143509. 1
485584143510. 2
485584143511. 3

485584143512. 4

Question Number : 113 Question Id : 48558435878 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

एक नाव 10 किमी/घंटा से उपरिप्रवाह तथा 18 किमी/घंटा से निम्न प्रवाह में गति करती है। यदि नाव की शांत जल में चाल m तथा धारा की प्रवाह में चाल n हो तो $m+n$ का मान होगा:

1. 16 किमी/घंटा
2. 18 किमी/घंटा
3. 20 किमी/घंटा
4. 14 किमी/घंटा

Options :

485584143509. 1
485584143510. 2
485584143511. 3
485584143512. 4

Question Number : 114 Question Id : 48558435879 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

Pipes A and B can fill a tank in 40 hours and 50 hours respectively and pipe C can empty the full tank in 60 hours. If all the pipes are opened together, how much time (in hours) will be needed to fill the tank ?

1. $33\frac{5}{17}$
2. $35\frac{5}{17}$
3. $31\frac{5}{17}$
4. $30\frac{5}{17}$

Options :

485584143513. 1
485584143514. 2
485584143515. 3
485584143516. 4

Question Number : 114 Question Id : 48558435879 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

पाइप A तथा B एक टंकी को क्रमशः 40 घंटे तथा 50 घंटे में भर सकते हैं और पाइप C पूरी टंकी को 60 घंटे में खाली कर सकता है। यदि सभी पाइपों को एक साथ खोल दिया जाये तो टंकी को पूरा भरने में कितने घण्टे लगेंगे?

1. $33\frac{5}{17}$

2. $35\frac{5}{17}$

3. $31\frac{5}{17}$

4. $30\frac{5}{17}$

Options :

485584143513. 1

485584143514. 2

485584143515. 3

485584143516. 4

Question Number : 115 Question Id : 48558435880 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

For the formula $t = \frac{\mu_1 - \mu_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}$ consider of the following statements:

- A. μ_1 and μ_2 are sample mean and population mean respectively.
- B. n_1 and n_2 are sample sizes of two samples from same population.
- C. S_1 and S_2 are sample means of two samples from same population.
- D. S_1 and S_2 are standard error of two samples from same population.
- E. n_1 is the sample size and n_2 is the population size.

Choose the correct answer from the options given below:

- 1. B and D only
- 2. A, B and D only
- 3. B, C and D only
- 4. A and E only

Options :

- 485584143517. 1
- 485584143518. 2
- 485584143519. 3
- 485584143520. 4

Question Number : 115 Question Id : 48558435880 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

सूत्र $t = \frac{\mu_1 - \mu_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}$ के लिए, निम्नलिखित कथनों का विचार कीजिये:

- A. μ_1 तथा μ_2 क्रमशः साधारण माध्य तथा समाष्टि माध्य हैं।
- B. n_1 तथा n_2 एक ही समष्टि के दो नमूनों के प्रतिदर्श के आमाप हैं।
- C. S_1 तथा S_2 एक ही समष्टि के दो नमूनों के साधारण माध्य हैं।
- D. S_1 तथा S_2 एक ही समष्टि के दो नमूनों की मानक त्रुटि हैं।
- E. n_1 प्रतिदर्श की आमाप तथा n_2 समष्टि की आमाप है।

नीचे दिये हुए विकल्पों से सही उत्तर का चयन करें:

- 1. केवल B और D
- 2. केवल A, B और D
- 3. केवल B, C और D
- 4. केवल A और E

Options :

- 485584143517. 1
- 485584143518. 2
- 485584143519. 3
- 485584143520. 4

Question Number : 116 Question Id : 48558435881 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

10 litres of concentrated acid containing 75% of acid and rest water is mixed with X litres of diluted acid containing 40% of acid and rest water. If the final mixture contains 60% of acid then value of X is:

- 1. 7.5 litres
- 2. 9 litres
- 3. 6 litres
- 4. 8 litres

Options :

- 485584143521. 1
- 485584143522. 2
- 485584143523. 3
- 485584143524. 4

Question Number : 116 Question Id : 48558435881 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

75% अम्ल तथा शेष पानी के 10 लीटर मिश्रण में 40% अम्ल तथा शेष पानी के X लीटर मिश्रण को मिलाया यदि परिणामी मिश्रण में 60% अम्ल हो तो X का मान क्या होगा:

1. 7.5 लीटर
2. 9 लीटर
3. 6 लीटर
4. 8 लीटर

Options :

- 485584143521. 1
- 485584143522. 2
- 485584143523. 3
- 485584143524. 4

Question Number : 117 Question Id : 48558435882 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

Fisher's price index number is:

1. A.M. of Laspeyre's and Paasche's index
2. G.M. of Laspeyre's and Paasche's index
3. H.M. of Laspeyre's and Paasche's index
4. Average of Laspeyre's and Paasche's index

Options :

- 485584143525. 1
- 485584143526. 2
- 485584143527. 3
- 485584143528. 4

Question Number : 117 Question Id : 48558435882 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
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फिशर का मूल्य सूचकांक है:

1. लेस्पेयर्स तथा पाशे के सूचकांक का समान्तर माध्य
2. लेस्पेयर्स तथा पाशे के सूचकांक का गुणोत्तर माध्य
3. लेस्पेयर्स तथा पाशे के सूचकांक का हरात्मक माध्य
4. लेस्पेयर्स तथा पाशे के सूचकांक औसत

Options :

485584143525. 1
 485584143526. 2
 485584143527. 3
 485584143528. 4

Question Number : 118 Question Id : 48558435883 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

A random variable X has the following probability distribution

X	0	1	2	3	4	5	6	7
P(X)	0	k	2k	2k	3k	k^2	$2k^2$	$7k^2+k$

then value of E(X) is:

1. 1.66
2. 2.66
3. 3.66
4. 4.66

Options :

485584143529. 1
 485584143530. 2
 485584143531. 3
 485584143532. 4

Question Number : 118 Question Id : 48558435883 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3



एक यादृच्छिक चर X का प्रायिकता बंटन नीचे दिया गया है

X	0	1	2	3	4	5	6	7
$P(X)$	0	k	$2k$	$2k$	$3k$	k^2	$2k^2$	$7k^2+k$

तो $E(X)$ का मान है:

1. 1.66
2. 2.66
3. 3.66
4. 4.66

Options :

485584143529. 1
485584143530. 2
485584143531. 3
485584143532. 4

Question Number : 119 Question Id : 48558435884 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

With reference to time series, match List I with List II

LIST I		LIST II	
A.	Secular movements	I.	Price increase before Deepavali
B.	Seasonal variations	II.	Increase in price of gold during a major war
C.	Cyclic variations	III.	Long term trends
D.	Irregular variations	IV.	Recurring rise and decline in production

Choose the correct answer from the options given below:

1. A-III, B-I, C-IV, D-II
2. A-II, B-I, C-IV, D-III
3. A-III, B-II, C-IV, D-I
4. A-II, B-III, C-IV, D-I

Options :

485584143533. 1
485584143534. 2
485584143535. 3
485584143536. 4

Question Number : 119 Question Id : 48558435884 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

कल श्रेणी के संदर्भ में, सूची I का सूची II से मिलान कीजिए

सूची I		सूची II	
A.	दीर्घकालीन परिवर्तन	I.	दीपावली से पूर्व मूल्य वृद्धि
B.	मौसमी परिवर्तन	II.	बड़े युद्ध के दौरान सोने की कीमत में वृद्धि
C.	चक्रीय परिवर्तन	III.	दीर्घकालीन उपनति
D.	अनियमित परिवर्तन	IV.	उत्पादन में लगातार वृद्धि और गिरावट

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए :

1. A-III, B-I, C-IV, D-II
2. A-II, B-I, C-IV, D-III
3. A-III, B-II, C-IV, D-I
4. A-II, B-III, C-IV, D-I

Options :

485584143533. 1
485584143534. 2
485584143535. 3
485584143536. 4

Question Number : 120 Question Id : 48558435885 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

The region represented by the system of inequalities $x, y \geq 0, y \leq 8, x + y \leq 4$ is:

1. unbounded in first quadrant
2. unbounded in first and second quadrant
3. bounded in first quadrant
4. bounded in first and second quadrants

Options :

485584143537. 1
485584143538. 2

485584143539. 3
485584143540. 4

Question Number : 120 Question Id : 48558435885 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

असमानताओ के निकाय $x, y \geq 0, y \leq 8, x + y \leq 4$ द्वारा निरूपित क्षेत्र है:

1. प्रथम चतुर्थांश में अपरिबद्ध
2. प्रथम तथा द्वितीय चतुर्थांश में अपरिबद्ध
3. प्रथम चतुर्थांश में परिबद्ध
4. प्रथम तथा द्वितीय चतुर्थांश में परिबद्ध

Options :

485584143537. 1
485584143538. 2
485584143539. 3
485584143540. 4

Question Number : 121 Question Id : 48558435886 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

The solution of $7x \equiv 3 \pmod{5}$ is:

1. $x \equiv 5 \pmod{5}$
2. $x \equiv 4 \pmod{5}$
3. $x \equiv 1 \pmod{5}$
4. $x \equiv 2 \pmod{5}$

Options :

485584143541. 1
485584143542. 2
485584143543. 3
485584143544. 4

Question Number : 121 Question Id : 48558435886 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1



Question Key Details :

Key	Value
Comprehension	MCQ3

$7x \equiv 3$ (मापांक 5) का हल है:

1. $x \equiv 5$ (मापांक 5)
2. $x \equiv 4$ (मापांक 5)
3. $x \equiv 1$ (मापांक 5)
4. $x \equiv 2$ (मापांक 5)

Options :

485584143541. 1
485584143542. 2
485584143543. 3
485584143544. 4

Question Number : 122 Question Id : 48558435887 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

For the LPP Max $Z = 3x + 4y$, $x + y \leq 40$; $x + 2y \leq 60$, $x \geq 0$, $y \geq 0$ the solution is :

1. $x = 20$, $y = 20$, Max $Z = 140$
2. $x = 40$, $y = 0$, Max $Z = 120$
3. $x = 0$, $y = 60$, Max $Z = 240$
4. $x = 10$, $y = 30$, Max $Z = 130$

Options :

485584143545. 1
485584143546. 2
485584143547. 3
485584143548. 4

Question Number : 122 Question Id : 48558435887 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

$7x \equiv 3$ (मापांक 5) का हल है:

1. $x \equiv 5$ (मापांक 5)
2. $x \equiv 4$ (मापांक 5)
3. $x \equiv 1$ (मापांक 5)
4. $x \equiv 2$ (मापांक 5)

Options :

485584143545. 1
485584143546. 2
485584143547. 3
485584143548. 4

Question Number : 123 Question Id : 48558435888 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

If the mean of the probability distribution is 5, then the value of k is:

X	2	k	5
P(X)	0.2	0.4	0.6

1. 1
2. 2
3. 4
4. 3

Options :

485584143549. 1
485584143550. 2
485584143551. 3
485584143552. 4

Question Number : 123 Question Id : 48558435888 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

यदि प्रायिकता बंटन का माध्य 5 है तो k का मान है:

X	2	k	5
P(X)	0.2	0.4	0.6

1. 1
2. 2
3. 4
4. 3

Options :

485584143549. 1
485584143550. 2
485584143551. 3
485584143552. 4

Question Number : 124 Question Id : 48558435889 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

If $A = \begin{bmatrix} 4 & 5 & 2 \\ 3 & -1 & 7 \end{bmatrix}$, then the sum of the elements of the matrix AA^T is:

1. 156
2. 164
3. 146
4. 136

Options :

485584143553. 1
485584143554. 2
485584143555. 3
485584143556. 4

Question Number : 124 Question Id : 48558435889 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

यदि $A = \begin{bmatrix} 4 & 5 & 2 \\ 3 & -1 & 7 \end{bmatrix}$, हो तो आव्यूह AA^T के अवयवों का योगफल है:

1. 156
2. 164
3. 146
4. 136

Options :

485584143553. 1
485584143554. 2
485584143555. 3
485584143556. 4

Question Number : 125 Question Id : 48558435890 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

If $x^{\frac{3}{4}} + y^{\frac{3}{4}} = a^{\frac{3}{4}}$ (a is a constant) then $\frac{dy}{dx}$ is equal to :

1. $\left(\frac{y}{x}\right)^{\frac{1}{4}}$
2. $\left(\frac{x}{y}\right)^{\frac{1}{4}}$
3. $-\left(\frac{y}{x}\right)^{\frac{1}{4}}$
4. $-\left(\frac{x}{y}\right)^{\frac{1}{4}}$

Options :

485584143557. 1
485584143558. 2
485584143559. 3
485584143560. 4

Question Number : 125 Question Id : 48558435890 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :



Key	Value
Comprehension	MCQ3

यदि $x^{\frac{3}{4}} + y^{\frac{3}{4}} = a^{\frac{3}{4}}$ (a अचर है) तो $\frac{dy}{dx}$ का मान है :

1. $\left(\frac{y}{x}\right)^{\frac{1}{4}}$

2. $\left(\frac{x}{y}\right)^{\frac{1}{4}}$

3. $-\left(\frac{y}{x}\right)^{\frac{1}{4}}$

4. $-\left(\frac{x}{y}\right)^{\frac{1}{4}}$

Options :

485584143557. 1
 485584143558. 2
 485584143559. 3
 485584143560. 4

Question Number : 126 Question Id : 48558435891 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

Let A and B be symmetric matrices of same order, then which of the following statement is true?

- (A + B) is a symmetric matrix
- (AB) is a symmetric matrix
- (A + B) is a skew-symmetric matrix
- (AB) is a skew-symmetric matrix

Options :

485584143561. 1
 485584143562. 2
 485584143563. 3
 485584143564. 4

Question Number : 126 Question Id : 48558435891 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1



Question Key Details :

Key	Value
Comprehension	MCQ3

माना A तथा B समान कोटि के सममित आव्यूह हैं तो निम्न में से कौनसा कथन सत्य है?

1. (A + B) सममित आव्यूह है
2. (AB) सममित आव्यूह है
3. (A + B) विषय सममित आव्यूह है
4. (AB) विषय सममित आव्यूह है

Options :

485584143561. 1
485584143562. 2
485584143563. 3
485584143564. 4

Question Number : 127 Question Id : 48558435892 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

For matrix $A = \begin{bmatrix} 3 & 1 \\ 7 & 5 \end{bmatrix}$, the values of x and y so that $A^2 + xI = yA$ are :

1. $x = 6, y = 8$
2. $x = 8, y = 6$
3. $x = 8, y = 8$
4. $x = 6, y = 6$

Options :

485584143565. 1
485584143566. 2
485584143567. 3
485584143568. 4

Question Number : 127 Question Id : 48558435892 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

आव्यूह $A = \begin{bmatrix} 3 & 1 \\ 7 & 5 \end{bmatrix}$, के लिए x तथा y का मान, यदि $A^2 + xI = yA$ हो, है:

1. $x = 6, y = 8$
2. $x = 8, y = 6$
3. $x = 8, y = 8$
4. $x = 6, y = 6$

Options :

485584143565. 1
485584143566. 2
485584143567. 3
485584143568. 4

Question Number : 128 Question Id : 48558435893 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

If $8 + 3x < |8 + 3x|$, $x \in \mathbb{R}$, then x lies in :

1. $(-\infty, \infty)$
2. $\left(-\infty, \frac{-3}{8}\right)$
3. $\left(-\infty, \frac{-8}{3}\right)$
4. $\left(-\infty, \frac{8}{3}\right)$

Options :

485584143569. 1
485584143570. 2
485584143571. 3
485584143572. 4

Question Number : 128 Question Id : 48558435893 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

यादि $8 + 3x < |8 + 3x|$, $x \in \mathbb{R}$, है तो x स्थित है :

1. $(-\infty, \infty)$
2. $\left(-\infty, \frac{-3}{8}\right)$
3. $\left(-\infty, \frac{-8}{3}\right)$
4. $\left(-\infty, \frac{8}{3}\right)$

Options :

485584143569. 1
485584143570. 2
485584143571. 3
485584143572. 4

Question Number : 129 Question Id : 48558435894 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

For $x + y = 8$, the maximum value of xy is:

1. 4
2. 8
3. 32
4. 16

Options :

485584143573. 1
485584143574. 2
485584143575. 3
485584143576. 4

Question Number : 129 Question Id : 48558435894 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

$x + y = 8$ के लिए, xy का अधिकतम मान है:

1. 4
2. 8
3. 32
4. 16

Options :

485584143573. 1
485584143574. 2
485584143575. 3
485584143576. 4

Question Number : 130 Question Id : 48558435895 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

The maximum profit that a company can make if the profit function is given by

$$P(x) = 32 + 24x - 18x^2 \text{ is:}$$

1. 48
2. 40
3. 36
4. 42

Options :

485584143577. 1
485584143578. 2
485584143579. 3
485584143580. 4

Question Number : 130 Question Id : 48558435895 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

एक कंपनी का अधिकतम लाभ यदि लाभ फलन

$P(x) = 32 + 24x - 18x^2$ दिया हो, है:

1. 48
2. 40
3. 36
4. 42

Options :

485584143577. 1
485584143578. 2
485584143579. 3
485584143580. 4

Sub-Section Number :

2

Sub-Section Id :

4855842651

Question Shuffling Allowed :

No

Is Section Default? :

null

Question Number : 131 Question Id : 48558435896 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2

A motor boat goes 48 km downstream and comes back to the starting point in 16 hours. If the speed of the stream is 4 km/hr, then the speed of the motor boat in still water is :

1. 6 km/hr
2. 8 km/hr
3. 10 km/hr
4. 5 km/hr

Options :

485584143581. 1
485584143582. 2
485584143583. 3
485584143584. 4

Question Number : 131 Question Id : 48558435896 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2



एक मोटर बोट को 48 किमी धरा के प्रवाह में जाकर वापस अपने शुरुआत के स्थान पर आने 16 घण्टे लगते हैं। यदि लहरों की चाल 4 किमी/घंटा हो तो मोटर बोट की शांत जल में चाल क्या होगी:

1. 6 किमी/घंटा
2. 8 किमी/घंटा
3. 10 किमी/घंटा
4. 5 किमी/घंटा

Options :

485584143581. 1
485584143582. 2
485584143583. 3
485584143584. 4

Question Number : 132 Question Id : 48558435897 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2

If $x = \frac{1}{t^2}$ and $y = \frac{1}{t^3}$, then $\frac{d^2y}{dx^2}$ at $t = 1$ is :

1. $\frac{3}{2}$
2. $\frac{1}{2}$
3. $\frac{2}{3}$
4. $\frac{3}{4}$

Options :

485584143585. 1
485584143586. 2
485584143587. 3
485584143588. 4

Question Number : 132 Question Id : 48558435897 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2



यदि $x = \frac{1}{t^2}$ तथा $y = \frac{1}{t^3}$, है तो $t = 1$ पर $\frac{d^2y}{dx^2}$ का मान है:

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

2. $\frac{1}{2}$

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

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

Options :

485584143585. 1

485584143586. 2

485584143587. 3

485584143588. 4

Question Number : 133 Question Id : 48558435898 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2

A coin is tossed 5 times. The probability of getting atleast one head is:

1. $\frac{31}{32}$

2. $\frac{15}{16}$

3. $\frac{1}{32}$

4. $\frac{63}{64}$

Options :

485584143589. 1

485584143590. 2

485584143591. 3

485584143592. 4

Question Number : 133 Question Id : 48558435898 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2

एक सिक्के को 5 बार उछाला गया। कम से कम एक चित आने की प्रायिकता होगी-

1. $\frac{31}{32}$

2. $\frac{15}{16}$

3. $\frac{1}{32}$

4. $\frac{63}{64}$

Options :

- 485584143589. 1
- 485584143590. 2
- 485584143591. 3
- 485584143592. 4

Question Number : 134 Question Id : 48558435899 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2

The following data are from a simple random sample : 1, 4, 7

The point estimate of the population standard deviation is:

1. 2

2. 5

3. 1.5

4. 3

Options :

- 485584143593. 1
- 485584143594. 2
- 485584143595. 3
- 485584143596. 4

Question Number : 134 Question Id : 48558435899 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2

निम्नलिखित आंकडे सामान्य यादृच्छिक प्रतिचयन : 1, 4, 7 समष्टि मानक विचलन का अनुमानित बिन्दु है:

1. 2
2. 5
3. 1.5
4. 3

Options :

485584143593. 1
485584143594. 2
485584143595. 3
485584143596. 4

Question Number : 135 Question Id : 48558435900 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2

A car costing ₹8,50,000 has scrap value of ₹1,25,000. If annual depreciation charge is ₹1,45,000, then useful life of the car is :

1. 12 years
2. 5 years
3. 7 years
4. 10 years

Options :

485584143597. 1
485584143598. 2
485584143599. 3
485584143600. 4

Question Number : 135 Question Id : 48558435900 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2

एक कार जिसकी कीमत ₹8,50,000 है, की अपघर्षित कीमत ₹1,25,000 है। यदि वार्षिक अवमूल्यन ₹1,45,000 है, तो कार का उपयोगी काल होगा:

1. 12 वर्ष
2. 5 वर्ष
3. 7 वर्ष
4. 10 वर्ष

Options :

485584143597. 1
485584143598. 2
485584143599. 3
485584143600. 4

Physics

Group Number :	3
Group Id :	485584811
Group Maximum Duration :	60
Group Minimum Duration :	60
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	200
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No

Physics

Section Id :	485584933
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	50
Number of Questions to be attempted :	40
Section Marks :	200
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	4855842652
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 136 Question Id : 48558435901 Question Type : MCQ Option Shuffling : No Is Question Mandatory :
No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 5 Wrong Marks : 1



Question Key Details :

Key	Value
Comprehension	MCQ

Choose the correct statement:

Three charges $2q$, $-q$, $-q$ are located at the vertices of an equilateral triangle. At the centroid:

1. the field is zero but the potential is non-zero
2. potential is zero but the field is non-zero
3. both field and potential are zero
4. both field and potential are non-zero

Options :

485584143601. 1
485584143602. 2
485584143603. 3
485584143604. 4

Question Number : 136 Question Id : 48558435901 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

सही कथन का चयन कीजिए:

तीन आवेशों $2q$, $-q$ और $-q$ एक समबाहु त्रिभुज के शीर्ष पर अवस्थित हैं। त्रिभुज के केन्द्रक पर:

1. विद्युत क्षेत्र शून्य है किन्तु विभव शून्य नहीं है।
2. विभव शून्य है किन्तु विद्युत क्षेत्र शून्य नहीं है।
3. विद्युत क्षेत्र और विभव दोनों ही शून्य हैं।
4. विद्युत क्षेत्र और विभव दोनों ही शून्य नहीं हैं।

Options :

485584143601. 1
485584143602. 2
485584143603. 3
485584143604. 4

Question Number : 137 Question Id : 48558435902 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ



The electric charges are distributed in a small volume. The flux of the electric field through a sphere of radius 10 cm surrounding the total charge is 20 Vm. The flux over a concentric sphere of radius 20 cm will be:

1. 20 Vm
2. 25 Vm
3. 40 Vm
4. 200 Vm

Options :

485584143605. 1
485584143606. 2
485584143607. 3
485584143608. 4

Question Number : 137 Question Id : 48558435902 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

विद्युत आवेश एक कम आयतन में वितरित है। आवेश से घिरे हुए एक 10 cm त्रिज्या के गोले का विद्युत क्षेत्र का फ्लक्स 20 Vm है। 20cm त्रिज्या वाले संकेन्द्रिय गोले का फ्लक्स होगा:

1. 20 Vm
2. 25 Vm
3. 40 Vm
4. 200 Vm

Options :

485584143605. 1
485584143606. 2
485584143607. 3
485584143608. 4

Question Number : 138 Question Id : 48558435903 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

A conducting sphere of radius R is given a charge Q. What is the electric field and the electric potential at the centre of the sphere?

1. $\frac{Q}{4\pi\epsilon_0 R^2}$ and $\frac{Q}{4\pi\epsilon_0 R}$

2. $\frac{Q}{4\pi\epsilon_0 R^2}$ and zero

3. zero and $\frac{Q}{4\pi\epsilon_0 R}$

4. Both electric field and electric potential are zero

Options :

485584143609. 1

485584143610. 2

485584143611. 3

485584143612. 4

Question Number : 138 Question Id : 48558435903 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

एक R त्रिज्या का चालक गोला Q आवेश देता है। गोले के केंद्र में विद्युत क्षेत्र एवं विद्युत विभव का क्या मान है ?

1. $\frac{Q}{4\pi\epsilon_0 R^2}$ और $\frac{Q}{4\pi\epsilon_0 R}$

2. $\frac{Q}{4\pi\epsilon_0 R^2}$ और शून्य

3. शून्य और $\frac{Q}{4\pi\epsilon_0 R}$

4. विद्युत क्षेत्र एवं विद्युत विभव दोनों शून्य हैं

Options :

485584143609. 1

485584143610. 2

485584143611. 3

485584143612. 4

Question Number : 139 Question Id : 48558435904 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

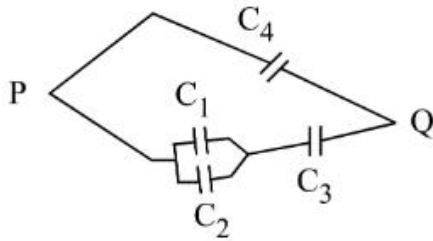
Correct Marks : 5 Wrong Marks : 1

Question Key Details :



Key	Value
Comprehension	MCQ

Four identical capacitors each of capacitance C are arranged as shown in the figure. What is the effective capacitance between P and Q?



1. $\frac{2C}{5}$
2. $\frac{3C}{5}$
3. $\frac{2C}{3}$
4. $\frac{5C}{3}$

Options :

485584143613. 1
 485584143614. 2
 485584143615. 3
 485584143616. 4

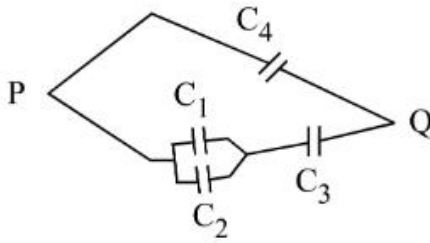
Question Number : 139 Question Id : 48558435904 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

दर्शाए गए चित्रानुसार C धारिता वाले 4 समान संधारित्र को व्यवस्थित किया गया। P और Q के मध्य प्रभावी धारिता क्या है ?



1. $\frac{2C}{5}$
2. $\frac{3C}{5}$
3. $\frac{2C}{3}$
4. $\frac{5C}{3}$

Options :

485584143613. 1
 485584143614. 2
 485584143615. 3
 485584143616. 4

Question Number : 140 Question Id : 48558435905 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Which of the following statements are correct?

- A. Electric field lines are always perpendicular to equipotential lines.
- B. A zero electric field inside a conducting sphere does not mean that the potential gradient is also zero
- C. The resultant of two electric fields is determined by vector addition of the two field strengths
- D. If the field lines get closer together at any place, it means that the field strength is decreasing
- E. The resultant potential at a point is just the sum of the individual potentials.

Choose the correct answer from the options given below:

- 1. A, C and E only
- 2. A, B and D only
- 3. B, C and E only
- 4. A, C and D only

Options :

- 485584143617. 1
- 485584143618. 2
- 485584143619. 3
- 485584143620. 4

Question Number : 140 Question Id : 48558435905 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

निम्नलिखित में कौन सा कथन सत्य है ?

- A. विद्युत क्षेत्र रेखाएँ समविभव रेखाओं के सदैव लम्बवत् होती हैं।
- B. किसी चालक गोले के भीतर शून्य विद्युत क्षेत्र का यह अर्थ नहीं होता कि विभव प्रवणता भी शून्य हो।
- C. दो विद्युत क्षेत्रों की परिणामी राशि को दोनों विद्युत क्षेत्र का तीव्रता के सदिश योग द्वारा प्राप्त कर सकते हैं।
- D. यदि किसी स्थान पर क्षेत्र रेखाएँ पास पास आ गई हैं इसका अर्थ है कि क्षेत्र की तीव्रता घट रही है।
- E. किसी बिंदु का परिणाम विभव उनके अपने विभव के योग के बराबर है।

निम्नलिखित विकल्पों में सही उत्तर का चयन कीजिए:

- 1. केवल A, C और E
- 2. केवल A, B और D
- 3. केवल B, C और E
- 4. केवल A, C और D

Options :

- 485584143617. 1
- 485584143618. 2



485584143619. 3
485584143620. 4

Question Number : 141 Question Id : 48558435906 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

A β -particle is moving perpendicular to the uniform electric field created by a potential difference of 6×10^3 V across parallel metal plates separated by a vertical distance of 6 cm. What is the acceleration of the beta particle between the plates? (Mass of electron = 9.1×10^{-31} kg)

1. $1.76 \times 10^{14} \text{ m s}^{-2}$
2. $1.76 \times 10^{16} \text{ m s}^{-2}$
3. $1.8 \times 10^{-16} \text{ m s}^{-2}$
4. $1.8 \times 10^{-12} \text{ m s}^{-2}$

Options :

485584143621. 1
485584143622. 2
485584143623. 3
485584143624. 4

Question Number : 141 Question Id : 48558435906 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

एक β कण समान विद्युत क्षेत्र के लम्बवत गति कर रहा है ,जो समान्तर धातुओं की प्लेटों को 6cm की उर्ध्वाधर दुरी पर रखने से विभवान्तर 46×10^3 V के कारण उत्पन्न हुआ है। प्लेटों के मध्य β -कण का त्वरण क्या होगा? (इलेक्ट्रॉन का द्रव्यमान = 9.1×10^{-31} kg)

1. $1.76 \times 10^{14} \text{ m s}^{-2}$
2. $1.76 \times 10^{16} \text{ m s}^{-2}$
3. $1.8 \times 10^{-16} \text{ m s}^{-2}$
4. $1.8 \times 10^{-12} \text{ m s}^{-2}$

Options :

485584143621. 1
485584143622. 2
485584143623. 3

485584143624. 4

Question Number : 142 Question Id : 48558435907 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Two wires of copper have lengths L and $2L$ and cross sectional area $2A$ and A , respectively. The ratio of their specific resistance would be-

1. 1:2
2. 1:8
3. 1:1
4. 1:4

Options :

485584143625. 1

485584143626. 2

485584143627. 3

485584143628. 4

Question Number : 142 Question Id : 48558435907 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

ताम्बे की दो तारें जिनकी लम्बाइयाँ क्रमशः L एवं $2L$ तथा अनुप्रस्थ काट के क्षेत्रफल क्रमशः $2A$ एवं A है। उनके विशिष्ट प्रतिरोधों का अनुपात होगा-

1. 1:2
2. 1:8
3. 1:1
4. 1:4

Options :

485584143625. 1

485584143626. 2

485584143627. 3

485584143628. 4

Question Number : 143 Question Id : 48558435908 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1



Question Key Details :

Key	Value
Comprehension	MCQ

The drift speed of electrons in a conductor is estimated to be only a few mm s^{-1} , But on closing a circuit, how current is established almost instantly in an electric circuit?

1. Electrons are accelerated towards the positive end of the conductor while their velocity increases towards the other end
2. Drift velocity of electrons increases
3. Electric field is established throughout the circuit with the speed of an electromagnetic wave, causing at every point local electron drift causing current.
4. The electrons drift towards the negative end

Options :

485584143629. 1
485584143630. 2
485584143631. 3
485584143632. 4

Question Number : 143 Question Id : 48558435908 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

किसी चालक के इलेक्ट्रॉनों की अनुमानित अपवाह चाल केवल कुछ mm s^{-1} है। परन्तु परिपथ के बंद होने पर किस प्रकार विद्युत परिपथ में तात्क्षणिक धारा प्रतिस्थापित होगी?

1. इलेक्ट्रॉन चालक के धनात्मक सिरे की ओर त्वरित होंगे जबकि उनका वेग दूसरे सिरे की ओर बढ़ता है।
2. इलेक्ट्रॉनों का अपवाह वेग बढ़ जाता है।
3. विद्युत चुम्बकीय तरंगों की चाल के साथ परिपथ में विद्युत क्षेत्र पुरे परिपथ में प्रतिस्थापित होता है। जिसके कारण प्रत्येक बिंदु पर स्थानीय इलेक्ट्रॉन धारा प्रवाहित करता है।
4. इलेक्ट्रॉन ऋणात्मक सिरे की ओर अपवाहित होता है।

Options :

485584143629. 1
485584143630. 2
485584143631. 3
485584143632. 4

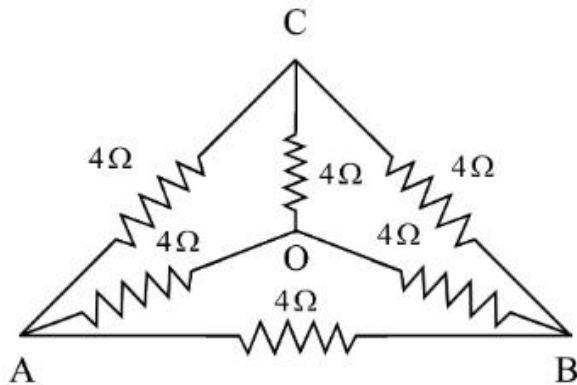
Question Number : 144 Question Id : 48558435909 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Six equal resistances each of $4\ \Omega$ are connected to form a network as shows in figure. The resistance between A and B would be:



1. $2\ \Omega$
2. $4\ \Omega$
3. $1/2\ \Omega$
4. $1/4\ \Omega$

Options :

- 485584143633. 1
- 485584143634. 2
- 485584143635. 3
- 485584143636. 4

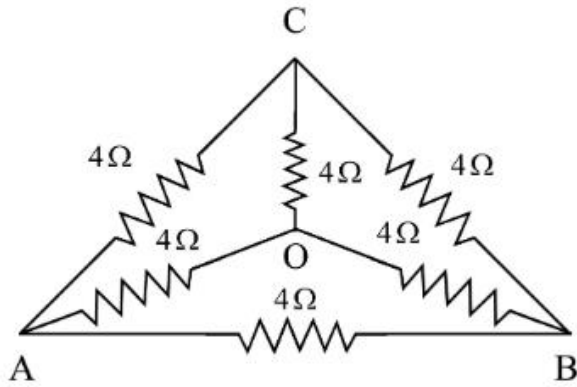
Question Number : 144 Question Id : 48558435909 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

दर्शाए गये चित्रानुसार $4\ \Omega$ के छः समान प्रतिरोधों को संयोजित कर एक जालिका बनाई। A और B के बीच प्रतिरोध होगा:



1. $2\ \Omega$
2. $4\ \Omega$
3. $1/2\ \Omega$
4. $1/4\ \Omega$

Options :

485584143633. 1
 485584143634. 2
 485584143635. 3
 485584143636. 4

Question Number : 145 Question Id : 48558435910 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

A galvanometer having a resistance of $8\ \Omega$ is shunted by a wire of resistance $2\ \Omega$. If the current is $1\ \text{A}$, the part of it passing through the shunt will be:

1. $0.25\ \text{A}$
2. $0.78\ \text{A}$
3. $0.2\ \text{A}$
4. $0.8\ \text{A}$

Options :

485584143637. 1
 485584143638. 2
 485584143639. 3
 485584143640. 4

Question Number : 145 Question Id : 48558435910 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

8Ω प्रतिरोध वाले एक गैल्वेनोमीटर को 2Ω प्रतिरोध की तार से शंट किया गया। यदि प्रवाहित धारा 1A है तो शंट के द्वारा गुजरने वाली धारा होगी:

1. 0.25 A

2. 0.78 A

3. 0.2 A

4. 0.8 A

Options :

485584143637. 1

485584143638. 2

485584143639. 3

485584143640. 4

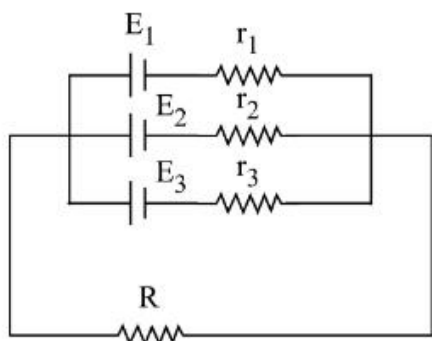
Question Number : 146 Question Id : 48558435911 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

If three cells are connected in parallel as shown in figure, then equivalent emf would be:



$$1. E_{eq} = \frac{\sum_{i=0}^3 E_i / r_i}{\sum_{i=0}^3 r_i}$$

$$2. E_{eq} = \frac{\sum_{i=0}^3 r_i / E_i}{\sum_{i=0}^3 1 / E_i}$$

$$3. E_{eq} = \frac{\sum_{i=1}^3 E_i / r_i}{\sum_{i=1}^3 1 / r_i}$$

$$4. E_{eq} = \frac{\sum_{i=1}^3 r_i / E_i}{\sum_{i=1}^3 r_i}$$

Options :

485584143641. 1

485584143642. 2

485584143643. 3

485584143644. 4

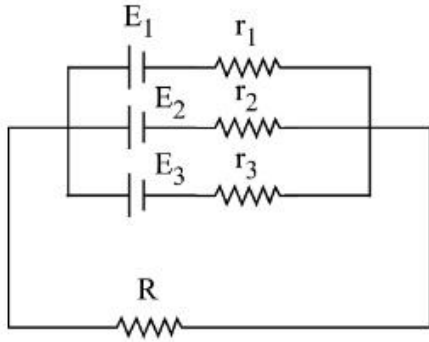
Question Number : 146 Question Id : 48558435911 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

चित्रानुसार यदि तीन सेलों को समानांतर में जोड़ा गया है। समतुल्य वि.वा.ब(emf) होगा:



$$1. E_{eq} = \sum_{i=0}^3 E_i / r_i / \sum_{i=0}^3 r_i$$

$$2. E_{eq} = \sum_{i=0}^3 r_i / E_i / \sum_{i=0}^3 1 / E_i$$

$$3. E_{eq} = \sum_{i=1}^3 E_i / r_i / \sum_{i=1}^3 1 / r_i$$

$$4. E_{eq} = \sum_{i=1}^3 r_i / E_i / \sum_{i=1}^3 r_i$$

Options :

- 485584143641. 1
- 485584143642. 2
- 485584143643. 3
- 485584143644. 4

Question Number : 147 Question Id : 48558435912 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Ferromagnetic material core used for transformer must have

- 1. low permeability and low hysteresis loss
- 2. low permeability and high hysteresis loss
- 3. high permeability and low hysteresis loss
- 4. high permeability and high hysteresis loss

Options :

485584143645. 1
485584143646. 2
485584143647. 3
485584143648. 4

Question Number : 147 Question Id : 48558435912 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

एक ट्रांसफार्मर के लिए लौह चुम्बकीय पदार्थ क्रोड़ प्रयुक्त होना चाहिए-

1. निम्न पारगम्यता एवं निम्न चुम्बकीय शैथिल्य हानि
2. निम्न पारगम्यता एवं उच्च चुम्बकीय शैथिल्य हानि
3. उच्च पारगम्यता एवं निम्न चुम्बकीय शैथिल्य हानि
4. उच्च पारगम्यता एवं उच्च चुम्बकीय शैथिल्य हानि

Options :

485584143645. 1
485584143646. 2
485584143647. 3
485584143648. 4

Question Number : 148 Question Id : 48558435913 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

A bar magnet when suspended horizontally and perpendicular to earth's field experiences a torque of 3×10^{-4} N m. The Magnetic moment of the magnet would be:

(take horizontal component of Earth's magnetic field at the place 0.4×10^{-4} T)

1. 7.5 J T^{-1}
2. 5.7 J T^{-1}
3. 0.75 J T^{-1}
4. 0.57 J T^{-1}

Options :

485584143649. 1
485584143650. 2

485584143651. 3
485584143652. 4

Question Number : 148 Question Id : 48558435913 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

एक छड़ चुम्बक पृथ्वी के चुम्बकीय क्षेत्र के क्षैतिज एवं लम्बवत् लटकाए जाने पर $3 \times 10^{-4} \text{ N m}$. बल आघूर्ण का अनुभव करता है। चुम्बक का चुम्बकीय आघूर्ण होगा

(उस स्थान पर पृथ्वी के चुम्बकीय क्षेत्र का क्षैतिज घटक $0.4 \times 10^{-4} \text{ T}$ है)।

1. 7.5 J T^{-1}
2. 5.7 J T^{-1}
3. 0.75 J T^{-1}
4. 0.57 J T^{-1}

Options :

485584143649. 1
485584143650. 2
485584143651. 3
485584143652. 4

Question Number : 149 Question Id : 48558435914 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Which of the following is connected to the coil of the galvanometer, to protect it from possible damages due to large current ?

1. High resistance wire in parallel
2. Low resistance wire in parallel
3. High resistance wire in series
4. Low resistance wire in series

Options :

485584143653. 1
485584143654. 2
485584143655. 3
485584143656. 4

Question Number : 149 Question Id : 48558435914 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

निम्नलिखित में गैल्वेनोमीटर की कुण्डली से किसे संयोजित किया जाए कि अधिक धारा प्रवाहित होने पर इसे खराब होने से बचाया जा सके।

1. पार्श्वक्रम में उच्च प्रतिरोध की तार
2. पार्श्वक्रम में निम्न प्रतिरोध की तार
3. श्रेणीक्रम में उच्च प्रतिरोध की तार
4. श्रेणीक्रम में निम्न प्रतिरोध की तार

Options :

485584143653. 1

485584143654. 2

485584143655. 3

485584143656. 4

Question Number : 150 Question Id : 48558435915 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

If a copper wire carries a direct current, the magnetic field associated with the current would be:

1. Only inside the wire
2. Only outside the wire
3. Both inside and outside of the wire
4. No magnetic field would exist due to direct current

Options :

485584143657. 1

485584143658. 2

485584143659. 3

485584143660. 4

Question Number : 150 Question Id : 48558435915 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :



Key	Value
Comprehension	MCQ

यदि एक तँबे की तार में दिष्ट धारा प्रवाह है तो इस धारा संबंधित चुम्बकीय क्षेत्र होगा:

- केवल तार के अन्दर
- केवल तार के बहार
- तार के अन्दर भी और बहार भी
- दिष्ट धारा के कारण कोई चुम्बकीय क्षेत्र अवस्थित नहीं होगा

Options :

485584143657. 1
485584143658. 2
485584143659. 3
485584143660. 4

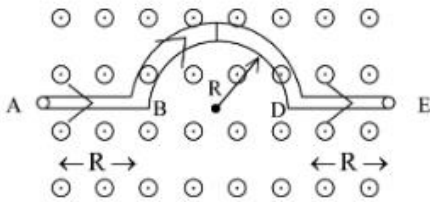
Question Number : 151 Question Id : 48558435916 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

A wire is bent as shown in figure is placed in a uniform field B that emerges from the plane of the paper, outward as shown. The magnitude of force on the given wire is :



- $4BIR$
- $BI(\pi R)$
- $BIR(2 + \pi)$
- Zero

Options :

485584143661. 1
485584143662. 2
485584143663. 3
485584143664. 4

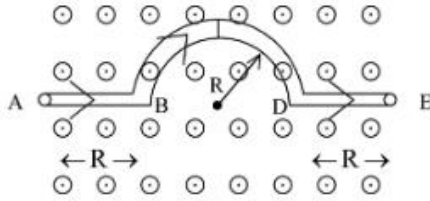
Question Number : 151 Question Id : 48558435916 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

चित्रानुसार एक तार को घुमाकर समान चुम्बकीय क्षेत्र B में रखा, जो पेपर के समतल पर बहार की ओर निष्काशित होता है। दिए गये तार पर बल का परिमाण:



1. $4BIR$
2. $BI(\pi R)$
3. $BIR(2 + \pi)$
4. शून्य

Options :

485584143661. 1
 485584143662. 2
 485584143663. 3
 485584143664. 4

Question Number : 152 Question Id : 48558435917 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

What is the magnetic force acting on a proton (charge $+1.6 \times 10^{-19} \text{C}$) moving at an angle of 30° across a magnetic field of $5.3 \times 10^{-3} \text{ T}$ at a speed of $3.0 \times 10^5 \text{ m s}^{-1}$?

1. $1.272 \times 10^{-19} \text{ N}$
2. $1.3 \times 10^{-16} \text{ N}$
3. $1.272 \times 10^{16} \text{ N}$
4. $2.2 \times 10^{-16} \text{ N}$

Options :

485584143665. 1
 485584143666. 2
 485584143667. 3
 485584143668. 4

Question Number : 152 Question Id : 48558435917 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0



Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

$5.3 \times 10^{-3} \text{ T}$ के चुम्बकीय क्षेत्र में $3.0 \times 10^5 \text{ m s}^{-1}$ की गति से 30° के कोण पर गति करते हुए एक प्रोटॉन (charge $+1.6 \times 10^{-19} \text{ C}$) पर आरोपित चुम्बकीय बल क्या होगा?

- $1.272 \times 10^{-19} \text{ N}$
- $1.3 \times 10^{-16} \text{ N}$
- $1.272 \times 10^{16} \text{ N}$
- $2.2 \times 10^{-16} \text{ N}$

Options :

485584143665. 1
485584143666. 2
485584143667. 3
485584143668. 4

Question Number : 153 Question Id : 48558435918 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

The mutual inductance M_{12} of coil 1 with respect to coil 2:

- depends on the current passing through the coil
- increases when the coils are brought nearer
- M_{21} of coil 2 with respect to the coil 1 is not same
- increases when any one coil is rotated about its axis

Options :

485584143669. 1
485584143670. 2
485584143671. 3
485584143672. 4

Question Number : 153 Question Id : 48558435918 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ



कुण्डली 1 का अन्योन्य प्रेरकत्व M_{12} कुण्डली 2 के सापेक्ष:

1. कुण्डली से होकर प्रवाहित धारा पर निर्भर करता है
2. कुण्डलियों को नज़दीक लाने पर बढ़ जाता है
3. कुण्डली 2 का M_{21} कुण्डली 1 के सापेक्ष समान नहीं है।
4. किसी एक कुण्डली को उसके अक्ष पर घुमाए जाने पर बढ़ जाता है।

Options :

485584143669. 1
485584143670. 2
485584143671. 3
485584143672. 4

Question Number : 154 Question Id : 48558435919 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

In a series LCR circuit an ac voltage source is connected. When inductor is removed from the circuit, the phase difference between the voltage and the current in the circuit is $\frac{\pi}{3}$. If capacitor is removed from the circuit instead of inductor, the phase difference is again $\frac{\pi}{3}$. What is the power factor of the circuit?

1. $\frac{1}{\sqrt{3}}$
2. $\frac{1}{2}$
3. $\frac{\sqrt{3}}{2}$
4. 1

Options :

485584143673. 1
485584143674. 2
485584143675. 3
485584143676. 4

Question Number : 154 Question Id : 48558435919 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ



श्रेणीक्रम में, LCR परिपथ और ac वोल्टता स्रोत संयोजित किये गये। जब परिपथ से प्रेरक को हटाया जाता है तो परिपथ में वोल्टता और धारा में कलांतर $\frac{\pi}{3}$ हो जाता है। यदि परिपथ से प्रेरक के स्थान पर संधारित्र को हटा दिया जाए तो कलांतर पुनः $\frac{\pi}{3}$ हो जाता है। परिपथ का शक्ति गुणांक क्या है।

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

2. $\frac{1}{2}$

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

4. 1

Options :

485584143673. 1
485584143674. 2
485584143675. 3
485584143676. 4

Question Number : 155 Question Id : 48558435920 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Match List I with List II

LIST I		LIST II	
A.	Quality factor of a circuit	I.	$[R^2 + (X_L - X_C)^2]^{-\frac{1}{2}}$
B.	Impedance in an ac circuit	II.	$(\sqrt{LC})^{-1}$
C.	Resonant frequency of a LCR circuit	III.	$0.5i_m V_m \sin(2\omega t)$
D.	Instantaneous power supplied to a capacitor	IV.	$(\omega_0 CR)^{-1}$

Choose the correct answer from the options given below:

1. A-I, B-II, C-III, D-IV
2. A-II, B-III, C-I, D-IV
3. A-III, B-IV, C-I, D-II
4. A-IV, B-I, C-II, D-III

Options :

485584143677. 1
485584143678. 2

485584143679. 3
485584143680. 4

Question Number : 155 Question Id : 48558435920 Question Type : MCQ Option Shuffling : No Is Question Mandatory :
No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

सूची- I का सूची-II से मिलान कीजिए

सूची- I		सूची- II	
A.	परिपथ का विशेषता(कालिटी) गुणांक	I.	$[R^2 + (X_L - X_C)^2]^{-1/2}$
B.	ac परिपथ में प्रतिबाधा	II.	$(\sqrt{LC})^{-1}$
C.	LCR परिपथ की अनुनादी आवृत्ति	III.	$0.5i_m V_m \sin(2\omega t)$
D.	संघारित्रको दी जाने वाली तात्क्षणिक शक्ति	IV.	$(\omega_0 CR)^{-1}$

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए:

1. A-I, B-II, C-III, D-IV
2. A-II, B-III, C-I, D-IV
3. A-III, B-IV, C-I, D-II
4. A-IV, B-I, C-II, D-III

Options :

485584143677. 1
485584143678. 2
485584143679. 3
485584143680. 4

Question Number : 156 Question Id : 48558435921 Question Type : MCQ Option Shuffling : No Is Question Mandatory :
No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

What is the self inductance of a solenoid of length 50 cm, if area of cross section is 10 cm^2 and total number of turns is 600?

1. $1.44 \times 10^{-4} \text{ H}$
2. $7.20 \times 10^{-4} \text{ H}$
3. $2.88 \times 10^{-4} \text{ H}$
4. $9.04 \times 10^{-4} \text{ H}$

Options :

485584143681. 1
485584143682. 2
485584143683. 3
485584143684. 4

Question Number : 156 Question Id : 48558435921 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

यदि परिनालिका की अनुप्रस्थ काट का क्षेत्रफल 10 cm^2 तथा फेरों की संख्या 600 है, तो 50 cm लम्बी परिनालिका का स्व-प्रेरकत्व क्या होगा ?

1. $1.44 \times 10^{-4} \text{ H}$
2. $7.20 \times 10^{-4} \text{ H}$
3. $2.88 \times 10^{-4} \text{ H}$
4. $9.04 \times 10^{-4} \text{ H}$

Options :

485584143681. 1
485584143682. 2
485584143683. 3
485584143684. 4

Question Number : 157 Question Id : 48558435922 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Choose the correct statements from the following:

- A. Induced emf opposes any change in the current in a circuit
- B. Induced emf in a closed coil can be increased by increasing the number of turns in the coil
- C. Varying current in a coil can not induce emf in a neighbouring coil.
- D. An LCR circuit has zero impedance at resonant frequency
- E. Average power supplied to an inductor over one complete cycle is zero

Choose the correct answer from the options given below:

- 1. A, C, D and E only
- 2. B, C and D only
- 3. A, B and E only
- 4. C, D and E only

Options :

- 485584143685. 1
- 485584143686. 2
- 485584143687. 3
- 485584143688. 4

Question Number : 157 Question Id : 48558435922 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

निम्नलिखित में सही कथन का चयन कीजिए:

- A. किसी परिपथ में स्वप्रेरित वि.वा.ब धारा में किसी भी प्रकार के परिवर्तन का विरोध करता है।
- B. किसी बन्द कुण्डली में प्रेरित वि.वा.ब को कुण्डली में फेरों की संख्या बढ़ाने पर बढ़ जाती है।
- C. एक कुण्डली में परिवर्ती धारा दूसरी समीपवर्ती कुण्डली में वि.वा.ब को प्रेरित नहीं कर सकता है।
- D. अनुनादी आवृत्ति पर किसी LCR परिपथ में प्रतिबाधा शून्य होती है।
- E. किसी प्रेरक को एक चक्र पूरा करने पर दी जाने वाली औसत शक्ति शून्य है।

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए :

- 1. केवल A, C, D और E
- 2. केवल B, C और D
- 3. केवल A, B और E
- 4. केवल C, D और E

Options :

- 485584143685. 1
- 485584143686. 2



485584143687. 3
485584143688. 4

Question Number : 158 Question Id : 48558435923 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

An alternating voltage $V = 140 \sin 100 \pi t$ is connected across a pure resistor of resistance 40Ω . What is the rms current through the resistor? (Take $\sqrt{2} = 1.4$)

1. 3.5 A
2. 2.5 A
3. 4.9 A
4. 0.1 A

Options :

485584143689. 1
485584143690. 2
485584143691. 3
485584143692. 4

Question Number : 158 Question Id : 48558435923 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

40Ω प्रतिरोध के शुद्ध प्रतिरोधक के साथ $V = 140 \sin 100 \pi t$ वोल्टता को संयोजित किया गया। प्रतिरोध में प्रवाहित rms धारा क्या होगी ($\sqrt{2} = 1.4$)?

1. 3.5 A
2. 2.5 A
3. 4.9 A
4. 0.1 A

Options :

485584143689. 1
485584143690. 2
485584143691. 3
485584143692. 4

Question Number : 159 Question Id : 48558435924 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0



Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

A flask contains Argon and Chlorine in the ratio of 2:1 by mass. The temperature of the mixture is 27°C. The ratio of root mean square speed of molecules of two gases will be : (atomic mass of Argon =40 u and molecular mass of Chlorine = 71 u)

1. 1.78
2. 1.33
3. 2
4. 1

Options :

485584143693. 1
485584143694. 2
485584143695. 3
485584143696. 4

Question Number : 159 Question Id : 48558435924 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

एक फ्लास्क में आर्गन और क्लोरीन द्रव्यमान के अनुसार 2:1 के अनुपात में रखी गई मिश्रण का तापमान 27°C है। दोनों गैसों के अणुओं का वर्गमूल माध्य चाल का अनुपात होगा:
(आर्गन का परमाणु द्रव्यमान =40 u और क्लोरीन का आण्विक द्रव्यमान = 71 u)

1. 1.78
2. 1.33
3. 2
4. 1

Options :

485584143693. 1
485584143694. 2
485584143695. 3
485584143696. 4

Question Number : 160 Question Id : 48558435925 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
-----	-------



Which of the following statement is not true for the electromagnetic waves?

1. These waves have momentum
2. These waves travel at different speeds in vacuum depending upon their frequency
3. These waves transport energy
4. These waves travel at different speeds in a medium depending upon their frequency.

Options :

485584143697. 1
485584143698. 2
485584143699. 3
485584143700. 4

Question Number : 160 Question Id : 48558435925 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

निम्नलिखित में कौन सा कथन विद्युत चुम्बकीय तरंगों के लिए सही नहीं है?

1. इन तरंगों में संवेग होता है।
2. ये तरंगों आवृत्ति के आधार पर भी भिन्न चालों से निर्वात में गुजरती है।
3. ये तरंगों उर्जा संचारित करती है।
4. ये तरंगों भिन्न चालों से माध्यम में गुजरती हैं।

Options :

485584143697. 1
485584143698. 2
485584143699. 3
485584143700. 4

Question Number : 161 Question Id : 48558435926 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Which one of the following cannot be polarised?

1. γ -rays
2. Sound waves
3. Microwaves
4. Ultraviolet rays

Options :

485584143701. 1
485584143702. 2
485584143703. 3
485584143704. 4

Question Number : 161 Question Id : 48558435926 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

निम्न में किसका ध्रुवण नहीं हो सकता ?

1. गामा किरणें
2. ध्वनि तरंगे
3. सूक्ष्म तरंगे
4. पराबैंगनी किरणें

Options :

485584143701. 1
485584143702. 2
485584143703. 3
485584143704. 4

Question Number : 162 Question Id : 48558435927 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Choose the correct formula for magnifying power of a simple microscope from the following

1. $m = 1 - \frac{d}{f}$

2. $m = 1 + \frac{d}{f}$

3. $m = 1 - \frac{f}{d}$

4. $m = 1 + \frac{f}{d}$

Options :

485584143705. 1

485584143706. 2

485584143707. 3

485584143708. 4

Question Number : 162 Question Id : 48558435927 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

निम्नलिखित में साधारण सूक्ष्मदर्शी की संवर्धन क्षमता का सही सूत्र है:

1. $m = 1 - \frac{d}{f}$

2. $m = 1 + \frac{d}{f}$

3. $m = 1 - \frac{f}{d}$

4. $m = 1 + \frac{f}{d}$

Options :

485584143705. 1

485584143706. 2

485584143707. 3

485584143708. 4

Question Number : 163 Question Id : 48558435928 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Light from a point source in air falls on spherical glass surface ($n = 1.4$ and radius of curvature 20 cm). The distance of light source from the glass surface is 150 cm . At what position is the image formed?

1. 150 cm from glass surface in the direction of incident light
2. 105 cm from glass surface in the direction of incident light
3. 150 cm from glass surface towards light source
4. 105 cm from glass surface towards light source

Options :

485584143709. 1
485584143710. 2
485584143711. 3
485584143712. 4

Question Number : 163 Question Id : 48558435928 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

वायु में रखे एक बिंदु स्रोत से काँच की सतह पर प्रकाश गिरती है ($n=1.4$ और वक्रता त्रिज्या 20cm)। काँच की सतह से प्रकाश स्रोत की दूरी 150 cm है। प्रतिबिम्ब किस स्थान पर बनेगा?

1. आपतित किरण की दिशा में काँच की सतह से 150 cm की दूरी पर
2. आपतित किरण की दिशा में काँच की सतह से 105 cm की दूरी पर
3. काँच की सतह से 150cm की दूरी पर प्रकाश स्रोत की ओर
4. काँच की सतह से 105cm की दूरी पर प्रकाश स्रोत की ओर

Options :

485584143709. 1
485584143710. 2
485584143711. 3
485584143712. 4

Question Number : 164 Question Id : 48558435929 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Match List I with List II

LIST I		LIST II	
A.	Frequency is the characteristics of	I.	Due to dispersion of light
B.	In a soap bubble colours are seen	II.	Medium of travel of light
C.	Wavelength depends on	III.	Source of light
D.	In a prism colours appear	IV.	Due to interference of light

Choose the correct answer from the options given below:

1. A-III, B-II, C-I, D-IV
2. A-II, B-III, C-IV, D-I
3. A-IV, B-III, C-I, D-II
4. A-III, B-IV, C-II, D-I

Options :

485584143713. 1
 485584143714. 2
 485584143715. 3
 485584143716. 4

Question Number : 164 Question Id : 48558435929 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

सूची I का सूची II से मिलान कीजिए

सूची I		सूची II	
A.	आवृत्ति, लक्षण है	I.	प्रकाश के विक्षेपण के कारण
B.	साबुन के बुलबुले में रंग दिखाई देते हैं	II.	प्रकाश का माध्यम में संचरण
C.	तरंगदैर्घ्य निर्भर करती है	III.	प्रकाश स्रोत
D.	प्रीज्म में रंग दिखाई देते हैं।	IV.	प्रकाश के व्यतिकरण के कारण

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए :

1. A-III, B-II, C-I, D-IV
2. A-II, B-III, C-IV, D-I
3. A-IV, B-III, C-I, D-II
4. A-III, B-IV, C-II, D-I

Options :

- 485584143713. 1
- 485584143714. 2
- 485584143715. 3
- 485584143716. 4

Question Number : 165 Question Id : 48558435930 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

For a glass prism ($\mu = \sqrt{3}$), the angle of minimum deviation is equal to the angle of prism. What is the angle of prism?

- 1. $\frac{\pi}{6}$
- 2. $\frac{\pi}{4}$
- 3. $\frac{\pi}{3}$
- 4. $\frac{2\pi}{3}$

Options :

- 485584143717. 1
- 485584143718. 2
- 485584143719. 3
- 485584143720. 4

Question Number : 165 Question Id : 48558435930 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

एक काँच के प्रिज्म ($\mu = \sqrt{3}$), न्यूनतम विचलन कोण प्रिज्म के कोण के बराबर है, प्रिज्म के कोण का काया मान है?

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

2. $\frac{\pi}{4}$

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

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

Options :

485584143717. 1

485584143718. 2

485584143719. 3

485584143720. 4

Question Number : 166 Question Id : 48558435931 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

A parallel beam of light of wavelength 500 nm is incident normally on a slit of width d . If the distance between slit and screen is 0.6 m and distance of second order minimum from the centre of the screen is 6.0 mm, What is the width of the slit?

1. 0.1 mm

2. 0.7 mm

3. 0.2 mm

4. 0.5 mm

Options :

485584143721. 1

485584143722. 2

485584143723. 3

485584143724. 4

Question Number : 166 Question Id : 48558435931 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

500 nm तरंगदैर्घ्य का एक प्रकाश पुँज 'd' मोटाईकी झिरी पर अभिलम्ब आपतित होता है। यदि झिरी एवं परदे के बीच की दूरी 0.6 m और पर्दे के मध्य से द्वितीय कोटि की न्यूनतम दूरी 6.0 mm है तो झिरी की चौड़ाई क्या होगी?

1. 0.1 mm
2. 0.7 mm
3. 0.2 mm
4. 0.5 mm

Options :

485584143721. 1
485584143722. 2
485584143723. 3
485584143724. 4

Question Number : 167 Question Id : 48558435932 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Two polaroids P_1 and P_2 are set in crossed positions. A third polaroid P_3 is placed between the two making an angle α with the axis passing from the first polaroid P_1 . In what orientation will the transmitted intensity be maximum?

1. $\frac{\pi}{2}$
2. $\frac{\pi}{3}$
3. $\frac{\pi}{4}$
4. 0

Options :

485584143725. 1
485584143726. 2
485584143727. 3
485584143728. 4

Question Number : 167 Question Id : 48558435932 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

P_1 तथा P_2 के दो पोलैरॉइड क्रॉस स्थिति में लगाए गए। इन दोनों के मध्य, पहले पोलैरॉइड P_1 से अक्षके अनुदिश α कोण बनाते हुए तीसरा पोलैरॉइड P_3 रखा गया। किस दिक्क्रिन्यास में संचरित प्रकाश की तीव्रता अधिकतम होगी?

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

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

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

4. 0

Options :

- 485584143725. 1
- 485584143726. 2
- 485584143727. 3
- 485584143728. 4

Question Number : 168 Question Id : 48558435933 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Which of the following statements are correct?

- A. Number of photoelectrons emitted per second is directly proportional to the intensity of incident radiation
- B. Cut off potential is the minimum negative potential given to the plate for which photocurrent becomes maximum
- C. For a given frequency of the incident radiation, the stopping potential is independent of its intensity
- D. Even for the exceedingly dim incident radiation apparent time lag is $\sim 10^{-9}$ s or less
- E. Photons are electrically neutral and are not deflected by electric and magnetic fields

Choose the correct answer from the options given below:

- 1. B and D only
- 2. A, C, D and E only
- 3. A, B and E only
- 4. A, B, C, D and E

Options :

- 485584143729. 1
- 485584143730. 2
- 485584143731. 3
- 485584143732. 4

Question Number : 168 Question Id : 48558435933 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

निम्नलिखित कथनों में कौन सा कथन सही है?

- A. प्रति सेकंड उत्सर्जित इलेक्ट्रॉनों की संख्या, आपतित किरण की तीव्रता के अनुक्रमानुपात होती है।
- B. निम्नतम त्रुण विभव जिस प्लेट पर प्रकाशिक धारा अधिकतम हो जाती है, अन्तक विभव कहलाता है।
- C. आपतित विकिरण की दी गई आवृत्ति के लिए मंदक विभव तीव्रता पर निर्भर नहीं करती।
- D. अत्यधिक मंद आपतित विकिरण पर अमासी समय अन्तराल $\sim 10^{-9}$ s या उसके कम होता है।
- E. फोटॉन विद्युतीय-उदासीन होता है और विद्युत तथा चुम्बकीय क्षेत्रों में विचलित नहीं होते।

निम्नलिखित विकल्पों में सही विकल्पों का चयन कीजिए

- 1. केवल B और D
- 2. केवल A, C, D और E
- 3. केवल A, B और E
- 4. A, B, C, D और E

Options :

- 485584143729. 1
- 485584143730. 2
- 485584143731. 3
- 485584143732. 4

Question Number : 169 Question Id : 48558435934 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

A body oscillate with SHM according to equation (SI unit),

$$x = 10\cos(2\pi t + \pi/4)$$

at $t = 1.5$ s, calculate the speed of the body.

- 1. 44 m s^{-1}
- 2. 22 m s^{-1}
- 3. 10 m s^{-1}
- 4. 5 m s^{-1}

Options :

- 485584143733. 1

485584143734. 2
485584143735. 3
485584143736. 4

Question Number : 169 Question Id : 48558435934 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

समीकरण के अनुसार एक पिण्ड सामान्य दोलन गति के साथ दोलन करती है। (SI इकाई)

$$x = 10\cos(2\pi t + \pi/4)$$

$t = 1.5$ s, तो पिण्ड की चाल की गणना कीजिए

1. 44 m s^{-1}
2. 22 m s^{-1}
3. 10 m s^{-1}
4. 5 m s^{-1}

Options :

485584143733. 1
485584143734. 2
485584143735. 3
485584143736. 4

Question Number : 170 Question Id : 48558435935 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

What is the de Broglie wavelength associated with an electron accelerated through a potential difference of 144 V?

1. 0.0102 nm
2. 1.022 nm
3. 0.0102 m
4. 0.102 nm

Options :

485584143737. 1
485584143738. 2
485584143739. 3
485584143740. 4

Question Number : 170 Question Id : 48558435935 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

144 V के विभवान्तर द्वारा किसी इलेक्ट्रॉन से सम्बंधित डी-ब्रॉग्ली तरंग दैर्घ्य क्या होगी?

1. 0.0102 nm
2. 1.022 nm
3. 0.0102 m
4. 0.102 nm

Options :

485584143737. 1
485584143738. 2
485584143739. 3
485584143740. 4

Question Number : 171 Question Id : 48558435936 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Choose the correct statements from the following:

- A. The minimum energy required to free the electron from the ground state of the hydrogen atom is 13.6 J
- B. The principle quantum number n labels the stationary states in the ascending order of energy
- C. Bohr gave the basic idea of discrete energy levels
- D. de Broglie hypothesis provided an explanation for Bohr's second postulate for the quantization of angular momentum of the orbiting electron
- E. line spectrum provides useful information about the atomic structure.

Choose the correct answer from the options given below:

1. A, C, D and E only
2. A, B and D only
3. B, C, D and E only
4. A and E only

Options :

485584143741. 1
485584143742. 2
485584143743. 3

Question Number : 171 Question Id : 48558435936 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

निम्नलिखित में सही कथन का चयन कीजिए:

- हाइड्रोजन परमाणु की निम्नतम अवस्था से इलेक्ट्रॉन मुक्त करने के लिए आवश्यक न्यूनतम उर्जा 13.6 J है।
- उर्जा के अवरोही क्रम में मुख्य क्वांटम संख्या n स्थिर अवस्था को इंगित करती है।
- बोहर की मुख्य विचार धारा के अनुसार उर्जा स्तर टुकड़ों में विभाजित है।
- डी-ब्रॉग्ली अवधारणा ने बोहर के दूसरी अभिगृहण की व्याख्या की कि कक्षीय इलेक्ट्रॉनों का कोणीय संवेग क्वांटिकृत होता है।
- लाइन स्पेक्ट्रम परमाणु संरचना के बारे में उपयोग सूचना देता है।

निम्नलिखित विकल्पों में सही उत्तर का चयन कीजिए:

- केवल A, C, D और E
- केवल A, B और D
- केवल B, C, D और E
- केवल A और E

Options :

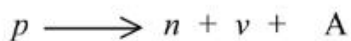
485584143741. 1
485584143742. 2
485584143743. 3
485584143744. 4

Question Number : 172 Question Id : 48558435937 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ



In this nuclear reaction A is a/an:

- electron
- gamma ray
- positron
- anti neutrino

Options :

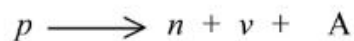
485584143745. 1
485584143746. 2
485584143747. 3
485584143748. 4

Question Number : 172 Question Id : 48558435937 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ



इस नाभिकीय अभिक्रिया में A एक _____ है।

1. इलेक्ट्रॉन
2. गामा किरण
3. पॉज़िट्रॉन
4. प्रति न्यूट्रिनो

Options :

485584143745. 1
485584143746. 2
485584143747. 3
485584143748. 4

Question Number : 173 Question Id : 48558435938 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

The nuclear force is:

1. independent of the nuclear charge
2. are central forces, independent of the spin of the nucleons
3. short range weak force
4. the strong forces between electron and proton bound in a nucleus

Options :

485584143749. 1
485584143750. 2
485584143751. 3
485584143752. 4

Question Number : 173 Question Id : 48558435938 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

नाभिकीय बल _____ है।

1. नाभिकीय आवेश पर निर्भर करता
2. केन्द्रीय बल है जो न्यूक्लीऑन के घूर्णन पर निर्भर नहीं करता
3. कम परासका दुर्बल बल
4. नाभिक में बंधित प्रोटॉन एवं इलेक्ट्रॉन के बीच का प्रबल बल

Options :

485584143749. 1
485584143750. 2
485584143751. 3
485584143752. 4

Question Number : 174 Question Id : 48558435939 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

After 4 hours, $\frac{1}{16}$ of the initial amount of a certain radioactive isotope remains undecayed. What is the half life of the isotope?

1. 15 min
2. 30 min
3. 45 min
4. 60 min

Options :

485584143753. 1
485584143754. 2
485584143755. 3
485584143756. 4

Question Number : 174 Question Id : 48558435939 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :



Key	Value
Comprehension	MCQ

4 घंटे के पश्चात, किसी रेडियोएक्टिव समस्थानिक के प्रारंभिक भाग का $\frac{1}{16}$ वाँ भाग अविधरित रह गया। समस्थानिक की अर्धआयु क्या होगी?

1. 15 मिनट
2. 30 मिनट
3. 45 मिनट
4. 60 मिनट

Options :

485584143753. 1
 485584143754. 2
 485584143755. 3
 485584143756. 4

Question Number : 175 Question Id : 48558435940 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Why do light emitting diodes are preferred over conventional incandescent low power lamps?

1. High operational voltage and less power
2. Short life and ruggedness
3. The bandwidth of emitted light is 10 nm to 50 nm
4. Warm up time required

Options :

485584143757. 1
 485584143758. 2
 485584143759. 3
 485584143760. 4

Question Number : 175 Question Id : 48558435940 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

प्रकाश उत्सर्जित डायोड को परम्परागत न्यूनतम प्रदीप्त बल्ब की अपेक्षा क्यों प्राथमिकता दी जाती है।

1. अत्यधिक कार्यरत वोल्टता और कम क्षमता (शक्ति)के कारण
2. कम आयु एवं मजबूती के कारण
3. उत्सर्जित प्रकाश की बैंड चौड़ाई 10nm से 50nm है।
4. गर्म होने के लिए समय की आवश्यकता होती है।

Options :

485584143757. 1
485584143758. 2
485584143759. 3
485584143760. 4

Question Number : 176 Question Id : 48558435941 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

A semiconductor has an electron concentration of $8 \times 10^{13} \text{ m}^{-3}$ and hole concentration of $2 \times 10^3 \text{ m}^{-3}$. The semiconductor behaves as:

1. n- type semiconductor
2. p - type semiconductor
3. intrinsic semiconductor
4. p-n junction

Options :

485584143761. 1
485584143762. 2
485584143763. 3
485584143764. 4

Question Number : 176 Question Id : 48558435941 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

एक अर्धचालक का इलेक्ट्रॉन सांद्रण $8 \times 10^{13} \text{ m}^{-3}$ तथा होल सांद्रण $2 \times 10^3 \text{ m}^{-3}$ है। अर्धचालक _____ की तरह व्यवहार करता है

1. n- प्रकार के अर्धचालक
2. p-प्रकार के अर्धचालक
3. नैज अर्धचालक
4. p-n संधि

Options :

485584143761. 1
485584143762. 2
485584143763. 3
485584143764. 4

Question Number : 177 Question Id : 48558435942 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

The forbidden energy band gap in conductors, semi conductors and insulators are E_{G1} , E_{G2} and E_{G3} , respectively. The relation among them is

1. $E_{G1} > E_{G2} > E_{G3}$
2. $E_{G1} < E_{G2} < E_{G3}$
3. $E_{G1} = E_{G2} = E_{G3}$
4. $E_{G1} < E_{G2} > E_{G3}$

Options :

485584143765. 1
485584143766. 2
485584143767. 3
485584143768. 4

Question Number : 177 Question Id : 48558435942 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

चालक, अर्धचालक एवं कुचालक में निषिद्ध उर्जा बैंड अन्तराल क्रमशः E_{G1} , E_{G2} एवं E_{G3} , है. इनमें परस्पर सम्बंध है-

1. $E_{G1} > E_{G2} > E_{G3}$
2. $E_{G1} < E_{G2} < E_{G3}$
3. $E_{G1} = E_{G2} = E_{G3}$
4. $E_{G1} < E_{G2} > E_{G3}$

Options :

485584143765. 1
485584143766. 2
485584143767. 3
485584143768. 4

Question Number : 178 Question Id : 48558435943 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

The truth table for one of the following logic gates is given. Identify the logic gate

Input		Output
A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

1. AND gate
2. NAND gate
3. NOR gate
4. OR gate

Options :

485584143769. 1
485584143770. 2
485584143771. 3
485584143772. 4

Question Number : 178 Question Id : 48558435943 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

लॉजिक गेट के लिए निम्नलिखित सत्यमान सारणी दी गई है। लॉजिक गेट को पहचानिए

Input		Output
A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

1. AND गेट
2. NAND गेट
3. NOR गेट
4. OR गेट

Options :

485584143769. 1
485584143770. 2
485584143771. 3
485584143772. 4

Question Number : 179 Question Id : 48558435944 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Match List I with List II

LIST I		LIST II	
A.	Repeater	I.	converts one form of energy into another
B.	Bandwidth	II.	information converted in electrical form and suitable for transmission
C.	Transducer	III.	A combination of a receiver and a transmitter
D.	Signal	IV.	portion of the spectrum occupied by the signal

Choose the correct answer from the options given below:

1. A-IV, B-III, C-II, D-I
2. A-III, B-IV, C-I, D-II
3. A-II, B-III, C-IV, D-I
4. A-III, B-I, C-II, D-IV

Options :

485584143773. 1
 485584143774. 2
 485584143775. 3
 485584143776. 4

Question Number : 179 Question Id : 48558435944 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

सूची I का सूची II से मिलान कीजिए

सूची I		सूची II	
A.	ग्राही	I.	एक प्रकार की उर्जा को दूसरे में परिवर्तित करना
B.	बैंड चौड़ाई	II.	सूचना को संचरण के लिए उपयोगी विद्युत रूप में परिवर्तन
C.	ट्रांसड्यूसर	III.	ग्राही एवं संसूचन का संयोजन
D.	प्रतीक	IV.	प्रतीक द्वारा अभिग्राहित स्पेक्ट्रम का कुछ भाग

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए :

1. A-IV, B-III, C-II, D-I
2. A-III, B-IV, C-I, D-II
3. A-II, B-III, C-IV, D-I
4. A-III, B-I, C-II, D-IV

Options :

- 485584143773. 1
- 485584143774. 2
- 485584143775. 3
- 485584143776. 4

Question Number : 180 Question Id : 48558435945 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

A transmitting antenna at the top of a tower has a height 18 m and the height of the receiving antenna is 32 m. What is the maximum distance between them for satisfactory communication in line-of-sight mode? Given radius of earth is 6.4×10^6 m

- 1. 33.4 km
- 2. 35.4 m
- 3. 35.4 km
- 4. 335 m

Options :

- 485584143777. 1
- 485584143778. 2
- 485584143779. 3
- 485584143780. 4

Question Number : 180 Question Id : 48558435945 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

किसी टॉवर एक संचरित एन्टीना की ऊँचाई 18 m और ग्राही एन्टीना की ऊँचाई 32 m है। लाइन एवं दृश्य मोड़ में सतोषजनक संसूचना के लिए अधिकतम दूरी क्या होगी? पृथ्वी की त्रिज्या 6.4×10^6 m

- 1. 33.4 km
- 2. 35.4 m
- 3. 35.4 km
- 4. 335 m

Options :

- 485584143777. 1
- 485584143778. 2
- 485584143779. 3

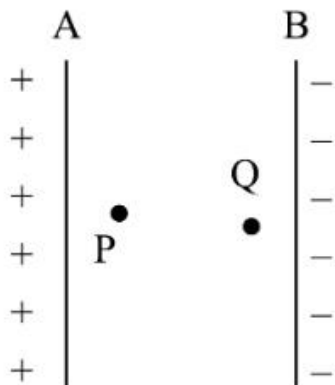
Question Number : 181 Question Id : 48558435946 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Two protons P and Q are placed between two charged plates A and B as shown, then



1. P experiences more force as closer to positive charged plate
2. Q experiences more force as closer to negative charged plate
3. Both experiences same force towards right hand side
4. Both experience same force towards left hand side

Options :

- 485584143781. 1
- 485584143782. 2
- 485584143783. 3
- 485584143784. 4

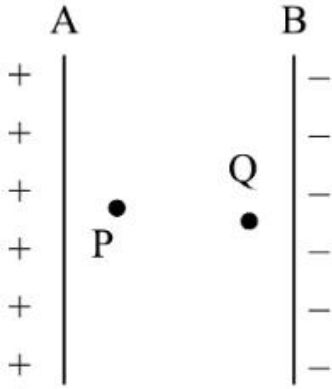
Question Number : 181 Question Id : 48558435946 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

दर्शाए गए चित्रानुसार A और B दो आवेशित पट्टियों के मध्य दो प्रोटॉनों P और Q रखे गए। तो



1. P घनआवेशित पट्टी के नजदीक अधिक बल का अनुभव किया
2. Q ऋणावेशित पट्टी के नजदीक अधिक बल का अनुभव किया
3. दोनों ही दाईं ओर समान बल का अनुभव करते है
4. दोनों ही बाईं ओर समान बल का अनुभव करते है

Options :

485584143781. 1
 485584143782. 2
 485584143783. 3
 485584143784. 4

Question Number : 182 Question Id : 48558435947 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Two sitar strings A and B playing a note are slightly out of tune and produces beats of frequency 5 Hz. The tension in string B is slightly increased and beat frequency become 3 Hz. What is the original frequency of B if frequency of A is 427 Hz.

1. 432 Hz
2. 430 Hz
3. 424 Hz
4. 422 Hz

Options :

485584143785. 1
 485584143786. 2
 485584143787. 3
 485584143788. 4

Question Number : 182 Question Id : 48558435947 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

सितार की दो तारे A और B बजाये जाने पर कुछ बेसुरी हो जाती है और 5 Hz की आवृत्ति की ताल (लय) उत्पन्न होती है। तार B में थोड़ा तनाव अधिक करने पर ताल आवृत्ति 3 Hz हो जाती है। यदि A की आवृत्ति 427 Hz हो तो B की वास्तविक आवृत्ति क्या होगी?

1. 432 Hz
2. 430 Hz
3. 424 Hz
4. 422 Hz

Options :

485584143785. 1
485584143786. 2
485584143787. 3
485584143788. 4

Question Number : 183 Question Id : 48558435948 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

The electric field vector oscillates according to the equation $\vec{E} = 4 \sin [1.8y + (5.4 \times 10^6)t] \hat{k}$. The equation of magnetic field vector is:

1. $\vec{B} = 1.33 \times 10^{-8} \sin [1.8y + (5.4 \times 10^6)t] \hat{i}$
2. $\vec{B} = 4 \sin [1.8y + (5.4 \times 10^6)t] \hat{j}$
3. $\vec{B} = 1.33 \times 10^{-8} \sin [1.8y + (5.4 \times 10^6)t] \hat{k}$
4. $\vec{B} = 5 \sin [1.8y + (5.4 \times 10^6)t] \hat{j}$

Options :

485584143789. 1
485584143790. 2
485584143791. 3
485584143792. 4

Question Number : 183 Question Id : 48558435948 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0



Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

सदिश विद्युत क्षेत्र दी गई समीकरण $\vec{E} = 4\sin[1.8y + (5.4 \times 10^6)t]\hat{k}$ के अनुसार दोलन करता है। चुम्बकीय क्षेत्र सदिश की समीकरण है:

1. $\vec{B} = 1.33 \times 10^{-8} \sin[1.8y + (5.4 \times 10^6)t]\hat{i}$

2. $\vec{B} = 4\sin[1.8y + (5.4 \times 10^6)t]\hat{j}$

3. $\vec{B} = 1.33 \times 10^{-8} \sin[1.8y + (5.4 \times 10^6)t]\hat{k}$

4. $\vec{B} = 5\sin[1.8y + (5.4 \times 10^6)t]\hat{j}$

Options :

485584143789. 1

485584143790. 2

485584143791. 3

485584143792. 4

Question Number : 184 Question Id : 48558435949 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

At what distance should an object be placed from a convex lens of focal length 15 cm to obtain a real image three times the size of the object ?

1. 10 cm

2. 20 cm

3. 40 cm

4. 50 cm

Options :

485584143793. 1

485584143794. 2

485584143795. 3

485584143796. 4

Question Number : 184 Question Id : 48558435949 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
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किसी उत्तल लेंस जिसकी फोकस दूरी 15 cm है, से किसी बिम्ब को कितनी दूरी पर रखा जाए कि इस बिम्ब के आकार का तीन गुना वास्तविक प्रतिबिम्ब प्राप्त हो सके?

1. 10 cm
2. 20 cm
3. 40 cm
4. 50 cm

Options :

485584143793. 1
485584143794. 2
485584143795. 3
485584143796. 4

Question Number : 185 Question Id : 48558435950 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Match List I with List II

LIST I		LIST II	
A.	Mass of alpha particle	I.	1.00727 u
B.	Mass of proton	II.	4.00260 u
C.	Mass of neutron	III.	0.00055 u
D.	Mass of electron	IV.	1.00866 u

Choose the correct answer from the options given below:

1. A-III, B-I, C-IV, D-II
2. A-II, B-IV, C-I, D-III
3. A-II, B-I, C-IV, D-III
4. A-I, B-III, C-II, D-IV

Options :

485584143797. 1
485584143798. 2
485584143799. 3
485584143800. 4

Question Number : 185 Question Id : 48558435950 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

सूची I का सूची II से मिलान कीजिए

सूची I		सूची II	
A.	अल्फा कणों का द्रव्यमान	I.	1.00727 u
B.	प्रोटॉन का द्रव्यमान	II.	4.00260 u
C.	न्यूट्रॉन का द्रव्यमान	III.	0.00055 u
D.	इलेक्ट्रॉन का द्रव्यमान	IV.	1.00866 u

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए :

1. A-III, B-I, C-IV, D-II
2. A-II, B-IV, C-I, D-III
3. A-II, B-I, C-IV, D-III
4. A-I, B-III, C-II, D-IV

Options :

485584143797. 1
485584143798. 2
485584143799. 3
485584143800. 4