

# National Testing Agency

Question Paper Name : 2053  
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## 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 : Yes 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 : 48558436766 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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 त्रिविक्रिय अयनित करता है तो बनता है।

1. चालक
2. निज 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 : 48558436767 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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 bcc 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.  $A_2B_3$

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 : Nonc 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

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

1.  $A_3B_4$
2.  $A_4B_3$
3. AB
4.  $A_2B_3$

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 : Nonc 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 : 48558436768 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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 : 48558436769 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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 : No 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

Current Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

Calculate the mass of urea ( $\text{NH}_2\text{CONH}_2$ ) required in making 2.5 kg of 0.25 molar 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

Current Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

2.5 kg यूरिया ( $\text{NH}_2\text{CONH}_2$ ) 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 : 4 Question Id : 48558436771 Question Type : MCQ Option Shuffling : No Is Question Mandatory :

No Calculator : No 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 सहीरूपीत को उनकी घटती हुई अपचायक क्षमता का क्रम है :

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

निलिखित 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  $\text{CuSO}_4$  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 = 96487c).

- 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

$\text{CuSO}_4$  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 :

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

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

Options :

485584143000. 1  
485584143000. 2  
485584143001. 3  
485584143002. 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.  $\text{Ni}^{2+}$  आयन की संख्या बढ़ जाएगी।
2.  $\text{Cu}^{2+}$  आयन की संख्या घट जाएगी।
3.  $\text{Cu}^{2+}$  आयन की संख्या बढ़ जाएगी।
4. सेल का तापमान घट जाएगा।

Options :

485584143000. 1  
485584143000. 2  
485584143001. 3  
485584143002. 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 :

485584143003. 1  
 485584143004. 2  
 485584143005. 3  
 485584143006. 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 के 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 :

485584143003. 1  
 485584143004. 2  
 485584143005. 3  
 485584143006. 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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Comprehension	MCQ
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In the below given hypothetical equation

$$r = k[A]^3 [B]^2$$

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 :

485584143007. 1  
485584143008. 2  
485584143009. 3  
485584143100. 4

Question Number : 10 Question Id : 48558435775 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : No 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

$$r = k[A]^3 [B]^2$$

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

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

Options :

485584143007. 1  
485584143008. 2  
485584143009. 3  
485584143100. 4

Question Number : 11 Question Id : 48558435776 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : No 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 रूढ़ 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

One of copper is :

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

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

वॉलर का अयस्क है :

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

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

समस्त परीक्षण के सिद्धांत किस पर आधारित है ?

1. न्यूनतम कथनक की अवृद्धियों की अवकल विधि द्वारा पृथक किया जा सकता है।
2. ठोस धातु की अपेक्षा घटित धातु में अवृद्धियों की विलेयता अधिक होती है।
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 : No 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 : No 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 behaviour.
- C.  $H_2S$  is more acidic than  $H_2Te$ .
- D. Fluorine form two oxoacids  $HO\ddot{F}$ ,  $HOFO$ .

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 : No 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. फ्लोरीन की ओक्सा 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  $HO\ddot{F}$  और  $HOFO$  दो प्रकार के ऑक्सीअम्ल 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 प्रोटॉनग्रही
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 वैशेषिक बनाने के लिए किस आयनिक स्वीचीज की सर्वाधिक प्रोटॉन संयुक्त 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 उद्येरक क्षमता से संबंधित हैं ?

1. हाइड्रेट आयनों का रंग
2. परिवर्ती ऑक्सीकरण अवस्था
3. उच्च कालन एन्थैल्पी
4. अनुसूचकीय प्रवृत्ति

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)

1.  $\text{Sc}^{3+}$
2.  $\text{Fe}^{2+}$
3.  $\text{Ti}^{3+}$
4.  $\text{Mn}^{2+}$

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 : No 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

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

1.  $\text{Sc}^{3+}$
2.  $\text{Fe}^{2+}$
3.  $\text{Ti}^{3+}$
4.  $\text{Mn}^{2+}$

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 : No 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. $K_2MnO_4$	I. Orange
B. $K_2Cr_2O_7$	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 : No 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. $K_2MnO_4$	I. नारंगी
B. $K_2Cr_2O_7$	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. $\text{Fe}^{2+}$	I. 2.34 BM
B. $\text{Ni}^{2+}$	II. 3.00 BM
C. $\text{Mn}^{2+}$	III. 4.90 BM
D. $\text{Zn}^{2+}$	IV. 5.92 BM

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 :

485584143143. 1

485584143144. 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. $\text{Fe}^{3+}$	I. 0.04 BM
B. $\text{Hg}^{2+}$	II. 0.06 BM
C. $\text{Mn}^{2+}$	III. 0.96 BM
D. $\text{Zn}^{2+}$	IV. 5.92 BM

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 :

485584143143. 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  $\text{BaCl}_2$ ?

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.  $[\text{Co}(\text{NH}_3)_5(\text{SO}_2)](\text{NO}_2)_2$

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



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 संयुक्त,  $\text{BaCl}_2$  के जलीय विलयन के साथ सफेद अवक्षेप देते ?

- 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.	$[\text{Co}(\text{NH}_3)_4(\text{NCS})_2]\text{SO}_4$	I.	+4
B.	$[\text{Co}(\text{NH}_3)_4\text{Cl}_2]\text{SO}_4$	II.	0
C.	$\text{Na}_2[\text{Co}(\text{S}_2\text{O}_3)_2]$	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 : No 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 योगिक	सूची II कोबाल्ट की ऑक्सीकरण संख्या
A. $[\text{Co}(\text{NH}_3)_4(\text{NCS})_2]\text{SO}_4$	I. +4
B. $[\text{Co}(\text{NH}_3)_4\text{Cl}_2]\text{SO}_4$	II. 0
C. $\text{Na}_2[\text{Co}(\text{S}_2\text{O}_3)_2]$	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



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 : 26 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 धुमकेतिक प्रवृत्तियों का बढ़ता क्रम है :

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

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए

- $A < B < C < D < E$
- $E < D < C < B < A$
- $D < A < B < C < E$
- $A < B < E < D < C$

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

- carbon - Mg bond is not highly polar
- Mg-X bond is essentially covalent
- It reacts with proton of water to form HX
- It reacts with  $\text{H}_2\text{O}$  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

प्रोपेन अभिकर्मक को निरक्षीय अवस्था में खाना चाहिए क्योंकि

1. कार्बन-मैग्नेशियम आबंध अधिक ध्रुवीय नहीं है।
2.  $Hg-X$  अवस्था अवस्थक रूप में सह-संयोजी है।
3. यह जल (पानी) के प्रोटीन 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.  $C_7H_5OC_2H_5$

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.  $C_6H_5COC_2H_5$
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 : 28 Question Id : 48558435793 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : No Response Time : N.A Think Time : N.A Minimum Instruction Time : 0  
Current 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 : No Response Time : N.A Think Time : N.A Minimum Instruction Time : 0  
Current Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

ऐसिल क्लोराइड विद्युतशुक्लानैकरण प्रक्रिया के उपरान्त देता है :

1. प्रोपाइलईन
2. प्रोपाइलीन
3. ऐसिल एल्कोइल
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 : Nano 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 : Nano 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 पौलिंगों को उनके कक्षान्क के बढ़ते क्रम में व्यवस्थित कीजिए।

- पेन्टेन-1-ऑल
- ब्यूटेन-1-ऑल
- ब्यूटेन-2-ऑल
- एथेनॉल
- प्रोपेन-1-ऑल

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए

- $A < B < C < D < E$
- $B < C < D < E < A$
- $C < D < E < A < B$
- $D < E < C < B < A$

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.

- o*-Cresol
- m*-Cresol
- 2,4-Dihydroxytoluene
- 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 उत्पन्न करता है

1. o-क्रिसोल
2. m-क्रिसोल
3. 2,4-डाइहाइड्रोक्सीटॉलुईन
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  $\text{NaOH}$  की उपस्थिति में क्लोरोफॉर्म के साथ अभिकृत किया जाता है तो बनने वाला मुख्य उत्पाद क्या होगा ?

1. 2-हाइड्रॉक्सी बेंजोइक अम्ल
2. ऐनिसॉल
3. सैलिसिलिक अम्ल
4. मिथॉक्सी-टॉर्लुइन

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 : No 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.	$\text{HCl} - \text{ZnCl}_2$	I.	Reducing agent
B.	$\text{LiAlH}_4$	II.	Organic 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 : No 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. $\text{HCl} - \text{ZnCl}_2$	I. अपघटक
B. $\text{LiAlH}_4$	II. सल्फर अभिकर्मक
C. $\text{PCC}$	III. ऑक्सीकृतक
D. स्थित मेग्नेशियम ब्रोमाइड	IV. लुकास 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 :

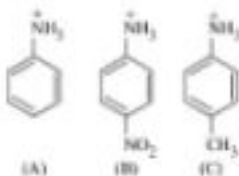
No Calculator : No Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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

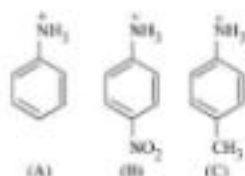
Question Number : 33 Question Id : 48558435798 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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 :

485584143199.1  
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

485584143193.3  
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 रीत अठसा में अभिक्रिया कराने पर प्राप्त होता है।

1. एक डाइऐज़ोनियम लवण
2. एक एल्कोहल
3. एक नाइट्राइट
4. एक रेखक

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.  $\text{HNO}_3$  and concentrated  $\text{H}_2\text{SO}_4$  mixture gives.

1. *o*- and *p*-nitroaniline
2. *o*-Nitroaniline
3. Black tarry 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  $\text{HNO}_3$  और सान्द्र  $\text{H}_2\text{SO}_4$  के साथ गर्म करने पर देता है :

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

Options :

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

Question Number : 36 Question Id : 48558435581 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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 : 48558435581 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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. मछली हार्मोन
B. थायरॉक्सिन	II. मछली हार्मोन
C. टेस्टोस्टेरोन	III. थायरॉयड
D. एक्राइनोइड	IV. शुक्राशुक्र का रक्त में स्राव

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 : 48558435882 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : No 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 : 48558435582 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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. माल्टीस
2. ग्लाइकोजन
3. लैक्टोस
4. फ्रुक्टोस

Options :

485584143205. 1

485584143206. 2

485584143207. 3

485584143208. 4

Question Number : 38 Question Id : 48558435583 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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 <sub>1</sub>	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 : 48558435583 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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. डिटरमिन-C	I. रिक्टर
B. डिटरमिन-A	II. बर्ल, बरी
C. डिटरमिन-D	III. भूकंपी
D. डिटरमिन-B <sub>2</sub>	IV. रल्लेपी

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 : 48558435584 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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. Crossed 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. टिरेलिन	I. ग्लाइकसाइडी बंधन
B. नाइलॉन	II. एस्टर बंधन
C. सेलुलोज	III. फॉस्फोडाय एस्टर बंधन
D. आर. एन. ए.	IV. एमिड 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

Question Number : 40 Question Id : 48558435585 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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 : 48558435585 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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 पृथिवी की और विसंक्रामी की तरह कार्य करेगा ?

1. बोरिक अम्ल
2. आयोडोफॉर्म
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 : 48558435586 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : No 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 : 48558435586 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : No 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 प्रणवस्था में कणों का आकार  $10^3$  से  $10^6$  होता है और कोलॉइड सॉल विषममणी प्रकृति का होता है। परिक्षिप्त प्रणवस्था एवं परिक्षेपण माध्यम के मध्य क्रिया के आधार पर कोलॉइड सॉल को प्रवसणी और प्रवसिचणी में वर्गीकृत किया गया। सॉल का स्थायित उसके कणों पर उपस्थित आवेश के कारण होता है और इनका उदासीनीकरण संवेदन 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 कम घनावेशित होते हैं।
2. कोलॉइड कणों पर कोई आवेश नहीं होता।
3. कोलॉइड कम विद्युतकथ्रॉपित होते हैं।
4. विद्युत अपघटन की सूक्ष्म मात्रा इसे स्थायित प्रदान करती है।

Options :

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

Question Number : 42 Question Id : 48558435887 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : No 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 : 48558435887 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : No 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 प्रणव में कणों का आकार  $10^3$  से  $10^6$  होता है और कोलॉइड सॉल विषमंगी प्रकृति का होता है। परिक्षित प्रणव एवं परिक्षण माध्यम के मध्य क्रिया के आधार पर कोलॉइड सॉल को द्रवसंगी और द्रवविरोधी 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 अर्क 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 : 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	Comp1

In a colloidal state the particle size of the dispersed phase range between  $10^3$  to  $10^6$  pm and colloidal sol is heterogeneous 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 : 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	Comp1

कोलॉइड प्रणवण में कणों का आकार  $10^3$  से  $10^6$  होता है और कोलॉइड सॉल विशेषांगी प्रकृति का होता है। परिक्षित प्रणवण एवं परिक्षेपण माध्यम के मध्य क्रिया के आधार पर कोलॉइड सॉल को द्रवरागी और द्रवविरागी में वर्गीकृत किया गया। सॉल का स्थायित 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 निम्न तापमान और सांद्रता से ऊपर
2. केवल निम्न 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 : 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	Comp:

In a colloidal state the particle size of the dispersed phase range between  $10^3$  to  $10^5$  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 Arsenious 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 : 48558435889 Question Type : MCQ Option Shuffling : No Is Question Mandatory :

No Calculator : No Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp:

कोलॉइड अवस्था में कणों का आकार  $10^3$  से  $10^5$  होता है और कोलॉइड सॉल विषममणी प्रकृति का होता है। परिक्षित अवस्था एवं परिक्षेप माध्यम के मध्य क्रिया के आधार पर कोलॉइड सॉल को द्रवरागी और द्रवविरगी 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 :



अम्लीय 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

Current 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 heterogeneous in nature. Based on the nature of interaction between the dispersed phase and dispersion medium colloidal sol are classified as hydrophilic 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 colloidal sol. formation takes place

Options :

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

Question Number : 46 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

Current Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp1

कोलॉइड प्रणवण में कणों का आकार  $10^3$  से  $10^6$  होता है और कोलॉइड सॉल विशेषताएँ प्रकृति का होता है। परिक्षित प्रणवण एवं परिक्षेपण माध्यम के माध्य क्रिया के आधार पर कोलॉइड सॉल को द्रवस्थी और द्रवस्थिकी में वर्गीकृत किया गया। सॉल का स्थायित्व उसके कणों पर उपस्थित आवेश के कारण होता है और इनका उदासीनीकरण संवदन या अवक्षेपण कहलाता है।

इस आधार पर निम्नलिखित प्रश्न का उत्तर दीजिए :

जब KI विलयन  $AgNO_3$  विलयन में डाला जाय

1. अवक्षेपित  $AgI$  KI विलयन से  $I^-$  आयन को अधिशोषित करता है और जलाशयित कोलॉइड सॉल बनाता है।
2. अवक्षेपित  $AgI$  KI विलयन से  $Ag^+$  आयन अधिशोषित करता है और जलाशयित कोलॉइड सॉल बनाता है।
3. अवक्षेपित  $KI$ ,  $AgNO_3$  के विलयन से  $NO_3^-$  अधिशोषित करता है और जलाशयित 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	Comp1

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

Which amongst the following undergo iodoform test

- A.  $\text{CH}_3\text{OH}$   
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 : No 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 ऐलिहाइड, कीटोन एवं कुछ ऐल्कोहल आयोडोफॉर्म परीक्षण देते हैं। कुछ ऐलिहाइड एवं कीटोन ऐलडील संघनन की अभिक्रिया करते हैं जबकि कुछ ऐलिहाइड केनिज़ारो अभिक्रिया सम्पादित करते हैं। ऐलिहाइड टीलैन अभिकर्मक और केह्लिंग अभिकर्मक परीक्षण के प्रतिक्रिया दर्शाते हैं।

निम्न में कौन आयोडोफॉर्म परीक्षण को दर्शाता है:

- A.  $\text{CH}_3\text{OH}$   
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.  $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$

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

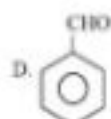
Question Key Details :

Key	Value
Comprehension	Comp2

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

Which amongst the following undergo aldol condensation

- A.  $\text{CH}_3\text{CHO}$
- B.  $\text{HCHO}$
- C.  $\text{CH}_3\text{COCH}_3$



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 : No Response Time : N/A Think Time : N/A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

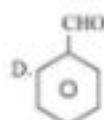
Question Key Details :

Key	Value
Comprehension	Comp2

कुछ ऐलिहाइड, कीटोन एवं कुछ ऐल्कोहल अल्डोलिकॉन परीक्षण देते हैं। कुछ ऐलिहाइड एवं कीटोन ऐल्डॉल संयोजन की अभिक्रिया करते हैं जबकि कुछ ऐलिहाइड केमिलारो अभिक्रिया सम्पादित करते हैं। ऐलिहाइड टॉलिन अभिकर्मक और केहलिंग अभिकर्मक परीक्षण के प्रतिक्रिया दर्शाते हैं।

निम्न में कौन ऐल्डॉल संघनन अभिक्रिया दर्शाता है:

- A.  $\text{CH}_3\text{CHO}$
- B.  $\text{HCHO}$
- C.  $\text{CH}_3\text{COCH}_3$



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 : No Response Time : N/A Think Time : N/A Minimum Instruction Time : 0

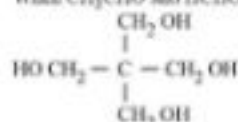
Correct Marks : 5 Wrong Marks : 1

Question Key Details :

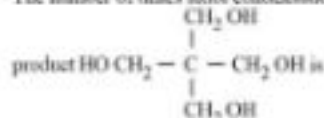
Key	Value
Comprehension	Comp2

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

When  $\text{CH}_3\text{CHO}$  and  $\text{HCHO}$  are treated with  $\text{NaOH}$  (aq), one of the product 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

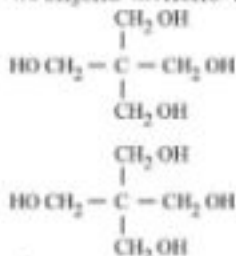
Question Number : 48 Question Id : 48558435813 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N/A Think Time : N/A Minimum Instruction Time : 0  
Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2

कुछ ऐलिहाइड, बीटोन एवं कुछ ऐल्कोहल आयोडोफार्म परीक्षण देते हैं। कुछ ऐलिहाइड एवं बीटोन ऐलडोल संघनन की अभिक्रिया करते हैं जबकि कुछ ऐलिहाइड केनिज़रो अभिक्रिया सम्पादित करते हैं। ऐलिहाइड टॉलेन अभिकर्मक और फेहलिंग अभिकर्मक परीक्षण के प्रतिक्रिया दर्शाते हैं।

जब  $\text{CH}_3\text{CHO}$  और  $\text{HCHO}$  की जलीय  $\text{NaOH}$  के साथ अभिक्रिया करायी जाती है, तो प्राप्त होने वाला एक उत्पाद



एक उत्पाद के रूप में उत्पन्न करने के लिए ऐलॉल संघनन एवं कैनिज़ार्ड अभिक्रिया की

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 : No Response Time : N/A Think Time : N/A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

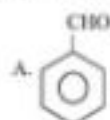
Question Key Details :

Key	Value
Comprehension	Comp2

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



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



- B.  $\text{HCHO}$   
C.  $\text{HCOOH}$   
D.  $\text{CH}_3\text{COCH}_3$

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 : No Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

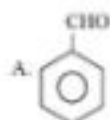
Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp1

कुछ ऐलिहाइड, कीटोन एवं कुछ ऐल्कोहल आयोडोफॉर्म परीक्षण देते हैं। कुछ ऐलिहाइड एवं कीटोन ऐल्डोल संघनन की अभिक्रिया करते हैं जबकि कुछ ऐलिहाइड फेनिज़रो अभिक्रिया सम्पादित करते हैं। ऐलिहाइड टॉलेन अभिकर्मक और फेहलिंग अभिकर्मक परीक्षण के प्रतिक्रिया दर्शाते हैं।

निम्नलिखित में कौन टॉलेन अभिकर्मक परीक्षण को दर्शाएगा



- B.  $\text{HCHO}$   
C.  $\text{HCOOH}$   
D.  $\text{CH}_3\text{COCH}_3$

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 : No Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

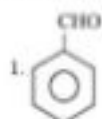
Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2

Certain Aldehydes, Ketone and certain alcohol undergo iodoform test. Certain Aldehydes ketones undergo aldol condensation. While certain aldehydes undergo Cannizzaro'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 :

485584143287. 1

485584143288. 2

485584143289. 3

485584143290. 4

Question Number : 50 Question Id : 48558435815 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : No 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 ऐलिहाइड, कीटोन एवं कुछ ऐल्कोहल आयोडोफार्म परीक्षण देते हैं। कुछ ऐलिहाइड एवं कीटोन ऐलडील संघनन की अभिक्रिया करते हैं जबकि कुछ ऐलिहाइड केनिज़रो अभिक्रिया सम्पादित करते हैं। ऐलिहाइड टॉलेन अभिकर्मक और फेहलिंग अभिकर्मक परीक्षण के प्रतिक्रिया दर्शाते हैं।

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

1. 
2.  $\text{CH}_3\text{CHO}$
3.  $\text{CH}_3\text{COCH}_3$
4. 

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 :	Can't View
Show Progress Bar? :	No

## Common

Section Id :	485584800
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 :	4855848647

Question Shuffling Allowed :  
Is Section Default? :

Yes  
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

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

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

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

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

Options :

485584143261. 1  
485584143262. 2

485584143263.3  
485584143264.4

Question Number : 52 Question Id : 48558435517 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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  $\begin{bmatrix} 4x & 3x-7 \\ 4x & 2x+y \end{bmatrix} = \begin{bmatrix} x+6 & y \\ 7y-13 & y \end{bmatrix}$  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 : 48558435517 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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  $\begin{bmatrix} 4x & 3x-7 \\ 4x & 2x+y \end{bmatrix} = \begin{bmatrix} x+6 & y \\ 7y-13 & y \end{bmatrix}$  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 : 48558435518 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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 : 48558435518 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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 : 48558435519 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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 : 48558435519 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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 कोई 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 : 48558435520 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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 Is Question Mandatory : No Calculator : None 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 : No 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 ह्रासमान
2.  $(-\infty, 0)$  में वर्धमान,  $[0, \infty)$  में ह्रासमान
3.  $\left[-\frac{1}{3}, \infty\right)$  में वर्धमान,  $\left(-\infty, -\frac{1}{3}\right]$  में ह्रासमान
4.  $x$  के सभी वास्तविक मानों के लिये ह्रासमान

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 : No 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

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

Current 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

$y = x - 5$  and x-axis एवं  $x = 2$  व  $x = 4$  से घिरे 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  $\frac{d}{dx} \left( 2 \frac{d^2 y}{dx^2} \right)^3 = 3$ , 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  $\frac{d}{dx} \left( 2 \frac{d^2 y}{dx^2} \right)^3 = 3$ , 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 प्रवृत्ति  $\frac{dy}{dx} = \frac{4x}{y}$ ,  $x > 0, y > 0$  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

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

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 : 42 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 सांख्यिक चर का प्रादिकछ खंडन नीचे दिया गइ है।

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

$P(X < 3)$  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)	$\frac{1}{e^2}$	$\frac{1}{e^2}$	$\frac{1}{e}$

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 अवसंज्ञा सांख्यिक चर X का प्रापिकता संयोजन निम्न है:

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

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

उपरोक्त  $x + y \leq 6$ ,  $x, y \geq 0$  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  $Z = 8x + 6y$ ,  $x \geq 0$ ,  $y \geq 0$  के लिए इसे रेखिक प्रोग्रामन समस्या बनाने के लिए, निम्नलिखित में से कौन सा एक वैध अनावरोध 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 : 485584091

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 : 4855840648

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	MCQ3

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, a**b** इस प्रकार परिभाषित है कि  $b - a + \sqrt{5}$  अविरमेय संख्या है तो संबंध B होगा:

- सममित
- संतुल्य
- संक्रामक
- 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 :

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

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 प्रसंग है:

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

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

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

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	MCQ3

फलन  $f(x) = \cos^{-1} \sqrt{2x-1}$  का मान 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	MCQ3

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 : 48558435535 Question Type : MCQ Option Shuffling : No Is Question Mandatory :

No Calculator : None 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



Question Number : 70 Question Id : 405504055035 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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 :

405504143337. 1

405504143338. 2

405504143339. 3

405504143340. 4

Question Number : 71 Question Id : 405504055036 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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 :

405504143341. 1

405504143342. 2

405504143343. 3

405504143344. 4

Question Number : 71 Question Id : 48558435534 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0  
Current Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

यदि  $A = \begin{bmatrix} 2 & 3 \\ -1 & 1 \end{bmatrix}$  तब  $A^2 - 3A + 4I = 0$  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 : 48558435537 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0  
Current 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	MCQ3

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 :

485584143245. 1

485584143246. 2

485584143247. 3

485584143248. 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	MCQ3

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 diagonal elements of a square arrangement of numbers

Options :

485584143249. 1

485584143250. 2

485584143251. 3

485584143252. 4

Question Number : 73 Question Id : 48558435538 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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. सारणीक, संख्याओं का आयतन क्रम विन्यास है।
2. सारणीक, संख्याओं का वर्गीकार क्रम विन्यास है।
3. सारणीक, का मान संख्याओं को वर्गीकार क्रम विन्यास में विशेष प्रकार दर्शाने से आता है।
4. सारणीक, संख्याओं के वर्गीकार क्रम विन्यास में विकर्ष के अक्षरों का योग होता है।

Options :

485584143340. 1

485584143350. 2

485584143351. 3

485584143352. 4

Question Number : 74 Question Id : 48558435539 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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 : 48558435539 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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

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

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  $A = (2, 3)$ ,  $B = (-1, 0)$ ,  $C = (4, 6)$  हैं हैं समांतर 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 बाएँ तरफ संतत है
2.  $f(x)$  केवल दाएँ तरफ संतत है
3.  $f(x)$  सतत है
4.  $f(x)$  अर्थात् असतत 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	MCQ3

If  $y = e^{x^2} + e^{x^3} + \dots$  so  $y, x > 0$  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  $x = e^{y^2} e^{y^3} \dots$  तो  $x > 0$  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  $f(\cos x)$  with respect to  $g(\cos x)$  at  $x = \frac{\pi}{4}$  (where  $f'(1) = 2g'(\sqrt{2}) = 4$ ) 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



$x = \frac{\pi}{4}$  (यहाँ  $f'(1) = 2x(\sqrt{2}) = 4$ ) पर  $g(\cos x)$  के सापेक्ष  $f(\cos x)$  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  $\mathbb{R}$  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

यदि  $y = 2\sin x$  के बिन्दु  $(0, 0)$  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	MCQ3

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	MCQ3

फलन  $f(x) = \frac{x^3}{4} - \frac{x^2}{2}$  में

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

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

$$\int_{-1}^1 x^2 [x] dx \text{ का मान है:}$$

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

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

3. 1

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

Options :

405504140303. 1

405504140304. 2

405504140307. 3

405504140305. 4

Question Number : 83 Question Id : 40550403040 Question Type : MCQ Option Shuffling : No Is Question Mandatory :

No Calculator : None 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

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

1. 65

2.  $-\frac{85}{2}$

3. 97

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

Options :

405504140300. 1

405504140300. 2

405504140301. 3

405504140302. 4

Question Number : 83 Question Id : 40550403040 Question Type : MCQ Option Shuffling : No Is Question Mandatory :

No Calculator : None 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

$$\int_{-3}^2 x^2 |2x| dx \text{ का मान है-}$$

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

यदि  $y^2 = 9x$  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	MCQ3

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 चतुर्थांश में स्थित क्षेत्र का क्षेत्रफल होगा-

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

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

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

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

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

Current Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The integrating factor of  $\sin x \frac{dy}{dx} + 2y \cos x = 4 \sin x$  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 : Nonc Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Current Marks : 5 Wrong Marks : 1

Question Key Details :

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



Comprehension	MCQ
---------------	-----

$\sin x \frac{dy}{dx} + 2y \cos x = 4$  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	MCQ

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	MCQ

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

1.  $x^2 + y^2 = 2C$ , C एक समाकलन का अवर है।

2.  $x - y^2 = 2C$ , C एक समाकलन का अवर है।

3.  $x^2 + y = 2C$ , C एक समाकलन का अवर है।

4.  $x^2 - y^2 = 2C$ , C एक समाकलन का अवर 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. 36

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  $|a|=5$ ,  $|b|=2$  तथा  $|a \cdot b| = 8$  हो  $|a \times b|$  का मान है:

1. 5
2. 6
3. 36
4.  $\pm 6$

Options :

485584143400. 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

Current Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

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

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

Current Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

यदि  $|x + y| = 15$ ,  $|x - y| = 16$ ,  $|x| = \frac{11}{2}$  तो  $|y|$  का मान है:

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

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

3.  $\pm 23$

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

Correct Marks : 5 Wrong Marks : 4

Question Key Details :

Key	Value
Comprehension	MCQ3

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

1.  $45^\circ$

2.  $90^\circ$

3.  $30^\circ$

4.  $60^\circ$

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

Correct Marks : 5 Wrong Marks : 4

Question Key Details :

Key	Value
Comprehension	MCQ3

सरल रेखाओं  $\frac{x-4}{2} = \frac{y+5}{5} = \frac{z+6}{3}$  तथा  $\frac{x-4}{16} = \frac{y-5}{2} = \frac{z-6}{-39}$  को मध्य कोण है:

1.  $45^\circ$
2.  $90^\circ$
3.  $30^\circ$
4.  $60^\circ$

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 : No 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:  $\frac{x-7}{-5} = \frac{y+17}{4} = \frac{z-6}{2}$  and  $\frac{x+3}{6} = \frac{y+3}{3} = \frac{z-4}{-6}$  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 : No 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  $\frac{x-7}{-6} = \frac{y+12}{4} = \frac{z-8}{2}$  तथा  $\frac{x+5}{6} = \frac{y+3}{5} = \frac{z-4}{-6}$  के समरेखा 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 : 48558435557 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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 : 48558435557 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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

जहाँ  $x \geq 0, y \geq 0, x + y \leq 10, 3x + 4y \leq 36$  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 : 48558435558 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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 : 48558435558 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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 लिये, सामान्य संगत 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 :

485584143420. 1  
485584143430. 2  
485584143431. 3  
485584143432. 4

Question Number : 94 Question Id : 48558435859 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : No 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 : No 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 घेरे में 12 सफेद लकड़ें लगी हैं। दो गैर शून्य प्रतिक्रिया के उत्तरों पर निकाली गई दो पहली गैर के लकड़ें लकड़ें 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  $P(A \cap B) = \frac{1}{3}$  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
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A तथा B इस प्रकार से घटित हैं कि  $P(A \cup B) = \frac{1}{3}$  तथा  $P(A \cap B) = \frac{4}{9}$  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 : Nonc Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Current Marks : 1 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 : Nonc Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Current Marks : 1 Wrong Marks : 1

Question Key Details :

Key	Value
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Comprehension	Comp:
---------------	-------

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

1. एकैकी तथा आच्छादक
2. एकैकी किन्तु 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	Comp:

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

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. $\frac{d}{dx} \left[ \tan^{-1} \left( \frac{2x-x^3}{1-3x^2} \right) \right]$	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. $\frac{d}{dx} \left[ \cos^{-1} \left( \frac{3x-x^3}{1-3x^2} \right) \right]$	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 :

485584143448. 1

485584143448. 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 :

- 485584143440. 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 किन्तु बिन्दु मिल 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 :

- 485584143440. 1
- 485584143450. 2
- 485584143451. 3

Question Number : 99 Question Id : 48558405864 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : Nonc 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 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 : 48558405864 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : Nonc 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

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

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

Options :

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

Question Number : 108 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 ?

1.  $\vec{x} = \alpha \vec{y}$
2.  $\vec{y} = \lambda \vec{x}$ , for some scalar  $\lambda$ .
3. Both the vectors  $\vec{x}$  and  $\vec{y}$  have same direction, but different magnitudes.
4. the respective components of  $\vec{x}$  and  $\vec{y}$  are not proportional

Options :

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

Question Number : 108 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 सरलरेखीय सदिश हैं तो निम्न में से कौन सही नहीं है

1.  $\vec{x} = \alpha \vec{y}$
2.  $\vec{y} = \lambda \vec{x}$ ,  $\lambda$  अदिश है
3. दोनों सदिश  $\vec{x}$  तथा  $\vec{y}$  एक ही दिशा में हैं परन्तु मापोंक भिन्न है
4.  $\vec{x}$  और  $\vec{y}$  के सदिश 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 शिपवाही के अंत में देय एक साल सन्धि ₹.3600 का वर्तमान मूल्य यदि वार्षिक ब्रह्मण दर 9% हो जो शिपवाही चक्रवृद्धि है, है:

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 : Nonc 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 : Nonc 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 सारा 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		Weight
	Base year	Current year	
X	50	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
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दिये हुए आँकड़ों के लिये

वर्ष	वैभवत		भार
	आधार वर्ष	सर्वाधिक वर्ष	
X	10	30	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  $\frac{1}{5}$  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 Is Question Mandatory : No Calculator : None 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 व्यवार 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  $(1.005)^{-60} = 0.74117220$ ]

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 चक्रवृद्धि 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 Is Question Mandatory : No Calculator : None 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. प्रायत
B. समष्टि के बारे में अनुमान	II. मानक कटि
C. नमूने का मानक विचलन	III. सहसंख्यी
D. समष्टि के अभिलक्षणिक का माप	IV. शून्य परिकल्पना

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए :

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

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

3. A-III, 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 : 101 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

Question Number : 101 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 किस्त 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 ₹100 is:

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

Options :

485584143493. 1  
485584143494. 2  
485584143495. 3  
485584143496. 4

Question Number : 101 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 :

485584143403. 1  
485584143404. 2  
485584143405. 3  
485584143406. 4

Question Number : 118 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  
Current 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 :

485584143407. 1  
485584143408. 2  
485584143409. 3  
485584143500. 4

Question Number : 118 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  
Current Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

समान् दर 8% वार्षिक जो कि अर्थव्यवस्था वसुधुदि 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 दूरी 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

Current 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	5
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 जलुओं की वर्ष 2018 तथा 2019 की परिमत निम्न है

वस्तु	2018 में मूल्य (र में)	2019 में मूल्य (र में)
A	4	3
B	3	5
C	2	6
D	6	5
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

Question Number : 113 Question Id : 48558435878 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : Non 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 सात जल में चाल 10 तथा धारा की प्रवाह में चाल  $x$  हो तो  $10+x$  का मान होगा:

1. 16 किमी/घंटा
2. 18 किमी/घंटा
3. 20 किमी/घंटा
4. 14 किमी/घंटा

Options :

- 485584143500\_1  
485584143510\_2  
485584143511\_3  
485584143512\_4

Question Number : 114 Question Id : 48558435879 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : Non 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.  $33\frac{3}{17}$

2.  $35\frac{5}{17}$

3.  $31\frac{3}{17}$

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  $t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}$  consider of the following statements:

- A.  $\bar{x}_1$  and  $\bar{x}_2$  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 : 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	MCQ3

सूत्र  $1 = \frac{n_1 - n_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$  के लिए, निम्नलिखित कथनों का विचार कीजिए:

- $n_1$  तथा  $n_2$  क्रमशः साधारण माध्य तथा समष्टि माध्य है।
- $n_1$  तथा  $n_2$  एक ही समष्टि के दो नमूनों के प्रतिदर्श के आकार हैं।
- $s_1$  तथा  $s_2$  एक ही समष्टि के दो नमूनों के साधारण माध्य है।
- $s_1$  तथा  $s_2$  एक ही समष्टि के दो नमूनों की मानक ऊँटि हैं।
- $n_1$  प्रतिदर्श की आमाप तथा  $n_2$  समष्टि की आमाप है।

नीचे दिये हुए विकल्पों से सही उत्तर का चयन करें:

- केवल B और D
- केवल A, B और D
- केवल B, C और D
- 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:

- 7.5 litres
- 9 litres
- 6 litres
- 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 : No 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 : No 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 : No 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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फिगर का मूल्य सूचकांक है

1. लेस्चेयर्स तथा पासे के सूचकांक का समान्तर माध्य
2. लेस्चेयर्स तथा पासे के सूचकांक का गुणोत्तर माध्य
3. लेस्चेयर्स तथा पासे के सूचकांक का हरात्मक माध्य
4. लेस्चेयर्स तथा पासे 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 : No 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 <sup>2</sup>	2k <sup>2</sup>	7k <sup>2</sup> -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 : No 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 सांख्यिक चर  $X$  का प्रयोगात्मक वंश 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 :

485584143520. 1  
485584143530. 2  
485584143531. 3  
485584143532. 4

Question Number : 119 Question Id : 48558435884 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : No 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 Depreciation
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 : No 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. दीर्घकालीन से पूर्व मूल्य वृद्धि
B. मीकसी परिवर्तन	II. बड़े दुग्ध के दौरान सोने की कीमत में वृद्धि
C. वक्रीय परिवर्तन	III. दीर्घकालीन उपभोग
D. अनिश्चित 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 : No 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

असमानताओं 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  $7x \equiv k \pmod{5}$  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 = 3(संयोजक 5) का हल है:

1. x = 5(संयोजक 5)
2. x = 4(संयोजक 5)
3. x = 1(संयोजक 5)
4. x = 2(संयोजक 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 : No 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 : No 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 = 3(संयोग 5) का हल है:

1.  $x = 5$ (संयोग 5)
2.  $x = 4$ (संयोग 5)
3.  $x = 1$ (संयोग 5)
4.  $x = 2$ (संयोग 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 प्रयुक्त बंटन का माध्य 5 हो तो 3 का मान है:

X	2	3	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. 186

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  $x^{\frac{1}{3}} = y^{\frac{1}{3}} = z^{\frac{1}{3}}$  ( $x$  is a constant) then  $\frac{dy}{dz}$  is equal to :

1.  $\left(\frac{y}{x}\right)^{\frac{1}{3}}$

2.  $\left(\frac{x}{y}\right)^{\frac{1}{3}}$

3.  $-\left(\frac{y}{x}\right)^{\frac{1}{3}}$

4.  $-\left(\frac{x}{y}\right)^{\frac{1}{3}}$

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  $x^{\frac{2}{3}} + y^{\frac{2}{3}} = a^{\frac{2}{3}}$  (a-अचर है) तो  $\frac{dy}{dx}$  का मान है :

1.  $\left(\frac{y}{x}\right)^{\frac{1}{3}}$

2.  $\left(\frac{x}{y}\right)^{\frac{1}{3}}$

3.  $-\left(\frac{y}{x}\right)^{\frac{1}{3}}$

4.  $-\left(\frac{x}{y}\right)^{\frac{1}{3}}$

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?

1.  $(A + B)$  is a symmetric matrix
2.  $(AB)$  is a symmetric matrix
3.  $(A + B)$  is a skew-symmetric matrix
4.  $(AB)$  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 : Nonc 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  $A = \begin{bmatrix} 1 & 1 \\ 3 & 1 \end{bmatrix}$  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 : Nonc 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

300088  $A = \begin{bmatrix} 3 & 1 \\ 7 & 5 \end{bmatrix}$  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  $0 < 3x < |6 + 3x|, x \in \mathbb{R}$ , 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

यदि  $8 + 3x < 8 + 3a$ ,  $x \in \mathbb{R}$ , है तो  $x$  सिद्ध है :

1.  $(-\infty, a]$
2.  $\left(-\infty, \frac{-3}{3}\right)$
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 : 138 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 : 138 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 :

4855840651

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 घंटा के प्रवाह में जाकर वापस आने शुरू-आत के स्थान पर आने 16 घण्टे लगते हैं। यदि लहरों की चाल 4 किमी/घंटा हो तो मोटर बोट की शान्त 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  $\frac{d^2y}{dt^2}$  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  $y = \frac{1}{t^2}$ , 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 :

405504:40505. 1

405504:40506. 2

405504:40507. 3

405504:40508. 4

Question Number : 133 Question Id : 4055040509 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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

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 :

405504:40509. 1

405504:40510. 2

405504:40501. 3

405504:40502. 4

Question Number : 133 Question Id : 4055040509 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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 पिट होने 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 : No 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 : No 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 ओंकेडे सामान्य वार्षिक प्रतिचयन : 1, 4, 7 सन्धि 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 : 136 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 अप्रचलित 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 :	Can View
Show Progress Bar? :	No

## Physics

Section Id :	485584823
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 :	4855848232
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 : Nonc 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 केन्द्र 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 : Nonc 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 संकेन्द्रित 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 : No 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  $R$  विज्या 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

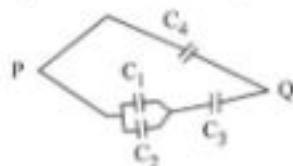
Question Number : 139 Question Id : 48558435904 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : No Response Time : N/A Think Time : N/A Minimum Instruction Time : 0

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

2.  $\frac{3C}{5}$

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

4.  $\frac{5C}{3}$

Options :

485584143613. 1

485584143614. 2

485584143615. 3

485584143616. 4

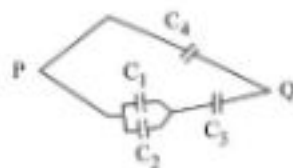
Question Number : 139 Question Id : 48558435904 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0  
Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ



दोनों गैर विद्यमान C परीक्षा वाले 4 समान संघटित 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 : 148 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 : 148 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 समविभक्त रेखाओं के सदस्य सम्बन्धित होती हैं।
- B. किसी चालक गोले के भीतर शून्य विद्युत क्षेत्र का यह अर्थ नहीं होता कि विभक्त प्रवणता भी शून्य हो।
- C. दो विद्युत क्षेत्रों की परिणामी राशि को दोनों विद्युत क्षेत्रों का विभक्त के सदस्य 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 विभक्त उनके अपने विभक्त 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 : No 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  $\beta$ -particle is moving perpendicular to the uniform electric field created by a potential difference of  $6 \times 10^3$  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 =  $9.1 \times 10^{-31}$  kg)

1.  $1.76 \times 10^{14} \text{ m s}^{-2}$
2.  $1.76 \times 10^{16} \text{ m s}^{-2}$
3.  $1.8 \times 10^{-18} \text{ m s}^{-2}$
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 : No 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  $\beta$  कण समान विद्युत क्षेत्र के लम्बायत गति कर रहा है, जो समान्तर धातुओं की प्लेटों को 6cm की ऊर्ध्वाधर दूरी पर रखने से विभवान्तर  $46 \times 10^3$  V के कारण उत्पन्न हुआ है। प्लेटों के मध्य  $\beta$ -कण का त्वरण क्या होगा? (इलेक्ट्रॉन का द्रव्यमान =  $9.1 \times 10^{-31}$  kg)

1.  $1.76 \times 10^{14} \text{ m s}^{-2}$
2.  $1.76 \times 10^{16} \text{ m s}^{-2}$
3.  $1.8 \times 10^{-18} \text{ m s}^{-2}$
4.  $1.8 \times 10^{-12} \text{ m s}^{-2}$

Options :

485584143621. 1  
485584143622. 2  
485584143623. 3

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

तारों की दो तारे जिनकी लम्बाईयाँ 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  $\text{mm s}^{-1}$ . 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 :**

485584143620. 1  
485584143630. 2  
485584143631. 3  
485584143632. 4

Question Number : 143 Question Id : 48558435908 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : No 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 वेग केवल कुछ  $\text{mm s}^{-1}$  है। परन्तु परिपथ के बंद होने पर किस प्रकार विद्युत परिपथ में तत्क्षणिक धारा प्रतिस्थापित होती?

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 पूरे 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 :**

485584143620. 1  
485584143630. 2  
485584143631. 3  
485584143632. 4

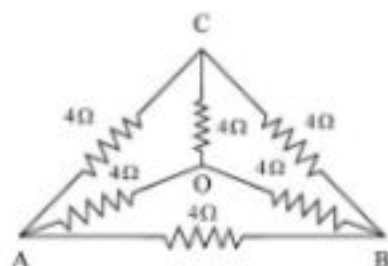
Question Number : 144 Question Id : 48558435909 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : No Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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 shown 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

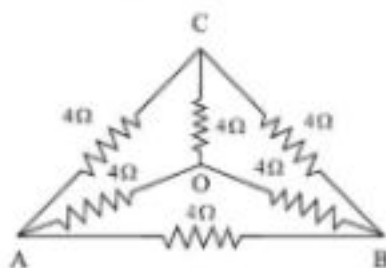
Question Number : 144 Question Id : 48558435909 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : No Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

दर्शाए गये विद्यमान 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

Current 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 A, the part of it passing through the shunt will be:

1. 0.25 A
2. 0.75 A
3. 0.2 A
4. 0.8 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

8 $\Omega$  प्रतिरोध वाले एक गैल्वेनोमीटर को 2 $\Omega$  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. 0.75 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

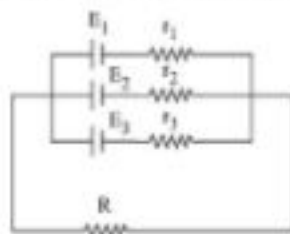
Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ



If three cells are connected in parallel as shown in figure, then equivalent emf would be:



$$1. E_{eq} = \sum_{i=1}^3 E_i / r_i / \sum_{i=1}^3 r_i$$

$$2. E_{eq} = \sum_{i=1}^3 r_i / E_i / \sum_{i=1}^3 1 / E_i$$

$$3. E_{eq} = \sum_{i=1}^3 E_i / r_i / \sum_{i=1}^3 1 / r_i$$

$$4. E_{eq} = \sum_{i=1}^3 r_i / E_i / \sum_{i=1}^3 r_i$$

Options :

485584143641. 1

485584143642. 2

485584143643. 3

485584143644. 4

Question Number : 146 Question Id : 48558435911 Question Type : MCQ Option Shuffling : No Is Question Mandatory :

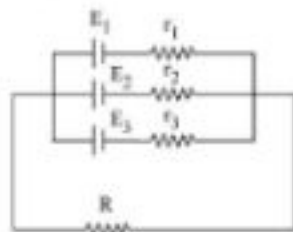
No Calculator : No Response Time : N/A Think Time : N/A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

विशालानुसार यदि तीन सेलों को समानांतर में जोड़ा गया है। समतुल्य वि.क. (emf) होगा:



$$1. E_{eq} = \sum_{i=1}^3 E_i / r_i / \sum_{i=1}^3 r_i$$

$$2. E_{eq} = \sum_{i=1}^3 r_i / E_i / \sum_{i=1}^3 1 / E_i$$

$$3. E_{eq} = \sum_{i=1}^3 E_i / r_i / \sum_{i=1}^3 1 / r_i$$

$$4. E_{eq} = \sum_{i=1}^3 r_i / E_i / \sum_{i=1}^3 r_i$$

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 : No Response Time : N/A Think Time : N/A Minimum Instruction Time : 0

Current 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 :

485584143643. 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 कोड़ प्रयुक्त होना चाहिए-

1. निम्न परागम्यता एवं निम्न चुम्बकीय संघटित्य हानि
2. निम्न परागम्यता एवं उच्च चुम्बकीय संघटित्य हानि
3. उच्च परागम्यता एवं निम्न चुम्बकीय संघटित्य हानि
4. उच्च परागम्यता एवं उच्च चुम्बकीय संघटित्य 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  $3 \times 10^{-4} \text{ N m}$ . The Magnetic moment of the magnet would be:

(take horizontal component of Earth's magnetic field at the place  $0.4 \times 10^{-2} \text{ T}$ )

1.  $7.5 \text{ J T}^{-1}$
2.  $5.7 \text{ J T}^{-1}$
3.  $0.75 \text{ J T}^{-1}$
4.  $0.57 \text{ J T}^{-1}$

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 : No 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 सड़ चुम्बक पृथ्वी के चुम्बकीय क्षेत्र के क्षेत्रित एवं लम्बवत् पटकए जाने पर  $3 \times 10^{-4} \text{ Nm}$  बल अपूर्ण का अनुभव करता है। चुम्बक का चुम्बकीय अपूर्ण होगा

(उस स्थान पर पृथ्वी के चुम्बकीय क्षेत्र का क्षेत्रित घटक  $0.4 \times 10^{-4} \text{ T}$  है)

1.  $7.5 \text{ JT}^{-1}$
2.  $5.7 \text{ JT}^{-1}$
3.  $0.75 \text{ JT}^{-1}$
4.  $0.57 \text{ JT}^{-1}$

Options :

485584143640. 1  
485584143650. 2  
485584143651. 3  
485584143652. 4

Question Number : 149 Question Id : 48558435914 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : No 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 huge 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 तारि की तार में दिष्ट धारा बलवृद्ध 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 :



- $4\pi R$
- $BI(\pi R)$
- $BI R(2 + \pi)$
- 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 पेंपर के समतल पर बाहर की ओर निष्काशित होता है। दिए गए तार पर बल का परिमाण



1.  $4BIR$
2.  $BI(xR)$
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 : Nonc 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  $30^\circ$  across a magnetic field of  $5.3 \times 10^{-3} \text{ T}$  at a speed of  $3.0 \times 10^3 \text{ m s}^{-1}$ ?

1.  $1.272 \times 10^{-18} \text{ N}$
2.  $1.3 \times 10^{-16} \text{ N}$
3.  $1.272 \times 10^{16} \text{ N}$
4.  $2.2 \times 10^{-18} \text{ N}$

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 : Nonc 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  $30^\circ$  के कोण पर गति करते हुए एक प्रोटॉन(charge  $+1.6 \times 10^{-19} \text{ C}$ ) पर आरोपित चुम्बकीय बल क्या होगा?

- $1.272 \times 10^{-19} \text{ N}$
- $1.3 \times 10^{-16} \text{ N}$
- $1.272 \times 10^{16} \text{ N}$
- $2.2 \times 10^{-10} \text{ N}$

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  $\omega_0$  वोल्टता स्रोत संयोजित किये गये। जब परिपथ से प्रेरक को हटाया जाता है तो परिपथ में वोल्टता और धारा में कतारतर  $\frac{\pi}{3}$  हो जाता है। यदि परिपथ से प्रेरक के स्थान पर संधारित्र को हटा दिया जाए तो कतारतर 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 : No 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.	$\left[ R^2 + (X_L - X_C)^2 \right]^{-1/2}$
B.	Impedance in an ac circuit	II.	$(\sqrt{LC})^{-1}$
C.	Resonant frequency of a LCR circuit	III.	$0.5V_{rms} \sin(2\omega t)$
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

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. परीपथ का विद्येवाहकतादि, गुणक	I. $\left[ R^2 + (X_L - X_C)^2 \right]^{-1}$
B. $\omega_C$ परीपथ में प्रतिबाधा	II. $\left( \sqrt{LC} \right)^{-1}$
C. LCR परीपथ की अनुनाद आवृत्ति	III. $2.314 V_{R1} \sin(45^\circ)$
D. कोशिका दो चले वाली तापगतिक शक्ति	IV. $\left( \omega_C CR \right)^{-1}$

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 :

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  $10 \text{ cm}^2$  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 कट का क्षेत्रफल  $10 \text{ cm}^2$  तथा फेरों की संख्या 600 है, तो 50 cm लम्बी परिनालिका का स-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 : 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

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  $40 \Omega$ . 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

$40 \Omega$  प्रतिरोध के शुद्ध प्रतिरोधक के साथ  $V = 140 \sin 100 \pi t$  वोल्टता को संबंधित किया गया। प्रतिरोध में प्रवाहित rms धारा का होगा  $(\sqrt{2} = 1.4)$ ?

- 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 : 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  $27^{\circ}\text{C}$ . 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  $27^{\circ}\text{C}$  है। दोनों गैसों के अणुओं का वर्तमान माध्य वेग का अनुपात होगा:

(आर्गन का परमाणु द्रव्यमान = 40 u और क्लोरीन का आणविक 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
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Comprehension	MCQ
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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 : 168 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 तरंगें आकृति के आधार पर भी भिन्न चालों से निर्वात में गुजरती हैं।
3. ये तरंगें ऊर्जा संचारित करती हैं।
4. ये तरंगें 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 out of the following cannot be polarised?

1.  $\gamma$  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 तरंगें
3. सूक्ष्म तरंगें
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 संघर्षन 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  $20\text{ cm}$ ). The distance of light source from the glass surface is  $150\text{ cm}$ . At what position is the image formed?

1.  $150\text{ cm}$  from glass surface in the direction of incident light
2.  $105\text{ cm}$  from glass surface in the direction of incident light
3.  $150\text{ cm}$  from glass surface towards light source
4.  $105\text{ cm}$  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  $20\text{cm}$ )। काँच की सतह से प्रकाश स्रोत की दूरी  $150\text{ cm}$  है। प्रतिबिम्ब किस स्थान पर बनेगा?

1. आपतित किरण की दिशा में काँच की सतह से  $150\text{ cm}$  की दूरी पर
2. आपतित किरण की दिशा में काँच की सतह से  $105\text{ cm}$  की दूरी पर
3. काँच की सतह से  $150\text{cm}$  की दूरी पर प्रकाश स्रोत की ओर
4. काँच की सतह से  $105\text{cm}$  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 characteristic 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 : No Response Time : N/A Think Time : N/A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

सूची I का सूची II से मिलान कीजिए।

सूची I		सूची II	
A.	आकृति, लक्षण है	I.	प्रकाश के विक्षेपण के कारण
B.	सबुन के बुलबुले में रंग दिखाई देते हैं।	II.	प्रकाश का माध्यम में संवहन
C.	लेंस/प्रिज्म बिखेर करती है।	III.	प्रकाश खेल
D.	प्रिज्म में रंग दिखाई देते हैं।	IV.	प्रकाश के प्रतिकरण 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 क्वीब 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 0.8 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 पृष्ठ मोटाई की छिरी पर अभिलम्ब आपतित होता है। यदि छिरी एवं परदे के बीच की दूरी 0.6 m और पर्दे के मध्य से द्वितीय कोटि की न्यूनतम दूरी 6.0 mm है तो छिरी 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 : 4855845932 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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  $\alpha$  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 : 4855845932 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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 फोटोइंट्रक क्रम श्रृंखला में लगाए गए।इन दोनों के मध्य पहले फोटोइंट्रक  $p_1$  से आइके अनुदिश  $\alpha$  कोण बनते हुए तीसरा फोटोइंट्रक  $p_3$  रखा गया। किस दिक्कियास में संवर्धित 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 : Nonc 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 : No 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?

- प्रति सेकंड उत्सर्जित इलेक्ट्रॉनों की संख्या, आपतित किरण की तीव्रता के अनुक्रमानुसार होती है।
- निम्नतम कुल विभव जिस प्लेट पर प्रकाशिक धारा अधिकतम हो जाती है, अन्तक विभव कहलाता है।
- आपतित विकिरण की दी गई आवृत्ति के लिए मंदक विभव तीव्रता पर निर्भर नहीं करती।
- अत्यधिक मंद आपतित विकिरण पर अन्तक समय अन्तराल  $\sim 10^{-9}$  s या उसके कम होता है।
- फोटॉन विद्युत्वीय-उत्पत्ती होता है और विद्युत् तथा चुम्बकीय क्षेत्रों में विचलित नहीं होते।

निम्नलिखित विकल्पों में सही विकल्पों का चयन कीजिए

- केवल B और D
- केवल A, C, D और E
- केवल A, B और E
- 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 : No 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.

- 44  $\text{m s}^{-1}$
- 22  $\text{m s}^{-1}$
- 10  $\text{m s}^{-1}$
- 5  $\text{m s}^{-1}$

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.  $44 \text{ m s}^{-1}$

2.  $22 \text{ m s}^{-1}$

3.  $10 \text{ m s}^{-1}$

4.  $5 \text{ m s}^{-1}$

Options :

485584143733. 1

485584143734. 2

485584143735. 3

485584143736. 4

Question Number : 178 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.  $0.0102 \text{ nm}$

2.  $1.022 \text{ nm}$

3.  $0.0102 \text{ m}$

4.  $0.102 \text{ nm}$

Options :

485584143737. 1

485584143738. 2

485584143739. 3

485584143740. 4

Question Number : 178 Question Id : 485584143737 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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 वेर्ध कया होगी?

- 0.0102 nm
- 1.022 nm
- 0.0102 m
- 0.102 nm

Options :

485584143737. 1  
 485584143738. 2  
 485584143739. 3  
 485584143740. 4

Question Number : 171 Question Id : 485584143736 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None 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:

- The minimum energy required to free the electron from the ground state of the hydrogen atom is 13.6 J
- The principle quantum number  $n$  labels the stationary states in the ascending order of energy
- Bohr gave the basic idea of discrete energy levels
- de Broglie hypothesis provided an explanation for Bohr's second postulate for the quantization of angular momentum of the orbiting electron
- line spectrum provides useful information about the atomic structure.

Choose the correct answer from the options given below:

- A, C, D and E only
- A, B and D only
- B, C, D and E only
- 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 ऊर्जा 13.6 J है।
- ऊर्जा के अवरोही क्रम में मुख्य क्वांटम संख्या  $n$  और अवस्था को इंगित करती है।
- बोहर की मुख्य विचार धारा के अनुसार ऊर्जा स्तर टुकटों में विभक्त है।
- डी-ब्रॉग्ली अवधारणा ने बोहर के दूसरी अभिवृद्धि 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 n/m:

- electron
- gamma ray
- positron
- anti neutrino

Options :

485584143743. 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

$$p \longrightarrow n + e + \bar{\nu}_e$$

इस नाभिकीय अभिक्रिया में A एक \_\_\_\_\_ है।

1. इलेक्ट्रॉन
2. गामा किरण
3. पोजिट्रॉन
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 :

485584143740. 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 रेडियोधर्मीय समस्थानिक के प्रारंभिक भाग का  $\frac{1}{16}$  वाँ भाग अवशेषित रह गया। समस्थानिक की अर्ध-आयु 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 न्यूट्रान 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 संघनन  $8 \times 10^{13} \text{ cm}^{-3}$  तथा होल संघनन  $2 \times 10^5 \text{ cm}^{-3}$  है। अर्धचालक \_\_\_\_\_ की तरह व्यवहार करता है।

1. n- प्रकार के अर्धचालक
2. p-प्रकार के अर्धचालक
3. वैक अर्धचालक
4. p-n संघि

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

घातक, अर्धघातक एवं कुचघातक में निम्निष्ठ ऊर्जा 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 : No Response Time : N/A Think Time : N/A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

सूची I का सूची II से मिलान कीजिए

सूची I	सूची II
A. घाटी	I. एक प्रसार की उर्जा को दूसरे में परिवर्तित करना
B. बैंड चौड़ाई	II. सूचना को संवाहक के लिए उपयुक्त विद्युत रूप में परिवर्तित
C. ट्रांसड्यूसर	III. घाटी एवं संयोजन का संयोजन
D. प्रतीक	IV. प्रतीक द्वारा अभिव्यक्ति सिस्टम 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 : 188 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  $6.4 \times 10^6$  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 : 188 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 संचारित एन्टीना की ऊँचाई 18 m और ग्राही एन्टीना की ऊँचाई 32 m है। लाइन ऑफ़ द्राय मोड में सतीषजनक संचरण के लिए अधिकतम दूरी क्या होगी? पृथ्वी की विज्या  $6.4 \times 10^6$  m

1. 33.4 km  
2. 35.4 m  
3. 35.4 km  
4. 335 m

Options :

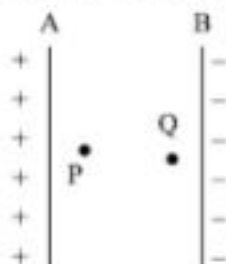
485584143777. 1  
485584143778. 2  
485584143779. 3

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  
Current 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 :

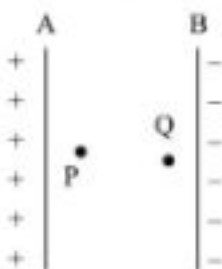
485584143781. 1  
485584143782. 2  
485584143783. 3  
485584143784. 4

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  
Current Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

दो अलग-अलग ध्वनि तरंगों A और B दो आवेक्षित पट्टियों के मध्य दो छोटों P और Q रखे गए। तो



1. P धन आवेक्षित पट्टी के नजदीक अधिक बल का अनुभव किया
2. Q ऋण आवेक्षित पट्टी के नजदीक अधिक बल का अनुभव किया
3. दोनों ही दाईं ओर समान बल का अनुभव करते हैं
4. दोनों ही बाईं ओर समान बल का अनुभव करते हैं

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 : No 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 बेंसुरी हो जाती है और 5 Hz की आवृत्ति की ताल (तय) 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  $\vec{E} = 4 \sin[1.8y + (5.4 \times 10^8)t] \hat{i}$ . The equation of magnetic field vector is:

1.  $\vec{B} = 1.33 \times 10^{-8} \sin[1.8y + (5.4 \times 10^8)t] \hat{j}$
2.  $\vec{B} = 4 \sin[1.8y + (5.4 \times 10^8)t] \hat{j}$
3.  $\vec{B} = 1.33 \times 10^{-8} \sin[1.8y + (5.4 \times 10^8)t] \hat{k}$
4.  $\vec{B} = 5 \sin[1.8y + (5.4 \times 10^8)t] \hat{j}$

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 विद्युत् क्षेत्र की गई समीकरण  $\vec{E} = 4 \sin[1.8y + (5.4 \times 10^6)x] \hat{k}$ , के अनुसार चोटन करता है। चुम्बकीय क्षेत्र सदिश की समीकरण है:

1.  $\vec{B} = 1.33 \times 10^{-8} \sin[1.8y + (5.4 \times 10^6)x] \hat{j}$

2.  $\vec{B} = 4 \sin[1.8y + (5.4 \times 10^6)x] \hat{j}$

3.  $\vec{B} = 1.33 \times 10^{-8} \sin[1.8y + (5.4 \times 10^6)x] \hat{k}$

4.  $\vec{B} = 5 \sin[1.8y + (5.4 \times 10^6)x] \hat{j}$

Options :

485584143780. 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 1.5 cm है, से किसी बिम्ब को कितनी दूरी पर रखा जाए कि इस बिम्ब के आवर्त 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. $1.50727 \text{ u}$
B. Mass of proton	II. $1.00727 \text{ u}$
C. Mass of neutron	III. $1.00866 \text{ u}$
D. Mass of electron	IV. $0.00055 \text{ u}$

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.	बेताईन का द्रव्यमान	II.	4.00260 u
C.	गामा किरणों 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