

National Testing Agency

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BTECH

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Chemistry

Section Id :	40503667
Section Number :	2
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	25
Number of Questions to be attempted:	25

Sub-Section Number: 1
Sub-Section Id: 405036106
Question Shuffling Allowed : Yes

Question Number : 26 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

For the following Assertion and Reason,
the correct option is :

Assertion : For hydrogenation reactions,
the catalytic activity increases
from Group 5 to Group 11
metals with maximum activity
shown by Group 7-9 elements.

Reason : The reactants are most strongly
adsorbed on group 7 - 9
elements.

Options :

Both assertion and reason are true
and the reason is the correct
1. explanation for the assertion.

Both assertion and reason are true but
the reason is not the correct
2. explanation for the assertion.

The assertion is true, but the reason
3. is false.

4. Both assertion and reason are false.

Question Number : 26 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

નિમ્ન કથન તથા કારણ કે લિખે સહી વિકલ્પ હૈ :

કથન : હાઇડ્રોજનીકરણ અભિક્રિયા કે લિખે, ઉત્પ્રેરિત ક્રિયાશીલતા સમૂહ 5 સે સમૂહ 11 તક બઢતી હૈ જિસમેં સમૂહ 7-9 કે તત્વોં મેં સબસે અધિક ક્રિયાશીલતા હોતી હૈ।

કારણ : સમૂહ 7 - 9 કે તત્વોં પર અભિકારકોં કા અધિશોષણ સર્વાધિક પ્રબલતા સે હોતા હૈ।

Options :

કથન તથા કારણ ઢોનોં સહી હૈં તથા કારણ કથન

1. કી સહી વ્યાખ્યા હૈ।

કથન તથા કારણ ઢોનોં સહી હૈં પરન્તુ કારણ

2. કથન કી સહી વ્યાખ્યા નહીં હૈ।

3. કથન સહી હૈ, પરન્તુ કારણ ગલત હૈ।

4. કથન તથા કારણ ઢોનોં ગલત હૈં।

Question Number : 26 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

નીચે આપેલા કથન અને કારણ માટે નીચે આપેલા પૈકી કયું ઁક સાચું છે?

કથન : હાઇડ્રોજનેશન પ્રક્રિયા માટે, ઉદ્દીપકીય સક્રિયતા સમૂહ 5 થી સમૂહ 11 ની ધાતુઓમા વધે છે અને સૌથી વધુ સક્રિયતા 7-9 ના તત્વોમા જોવા મળે છે.

કારણ : સમૂહ 7 - 9 ના તત્વો ઉપર પ્રક્રિયકોનું સૌથી પ્રબળ અધિશોષણ થાય છે.

Options :

કથન અને કારણ બંને સાચા છે અને કારણ એ

1. કથન માટેની સાચી સમજૂતી છે.

કથન અને કારણ બંને સાચા છે પરંતુ કારણ એ

2. કથન માટેની સાચી સમજૂતી નથી.

3. કથન સાચું છે પરંતુ કારણ ખોટું છે.

4. કથન અને કારણ બંને ખોટાં છે.

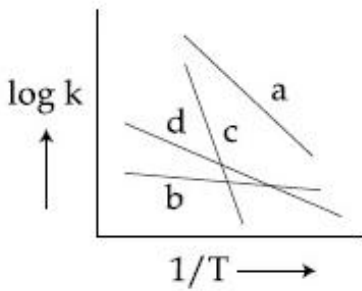
Question Number : 27 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

Consider the following plots of rate

constant versus $\frac{1}{T}$ for four different

reactions. Which of the following orders is correct for the activation energies of these reactions ?



Options :

1. $E_b > E_d > E_c > E_a$

2. $E_a > E_c > E_d > E_b$

3. $E_c > E_a > E_d > E_b$

4. $E_b > E_a > E_d > E_c$

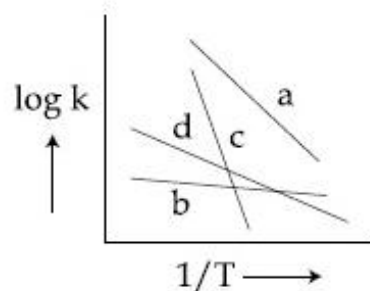
Question Number : 27 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

चार विभिन्न अभिक्रियाओं के लिए वेग-स्थिरांक का

$\frac{1}{T}$ के विरुद्ध निम्नलिखित आलेखों पर विचार कीजिए।

इन अभिक्रियाओं के सक्रियण ऊर्जाओं के लिए निम्नलिखित क्रमों में से कौन सा सही है?



Options :

1. $E_b > E_d > E_c > E_a$

2. $E_a > E_c > E_d > E_b$

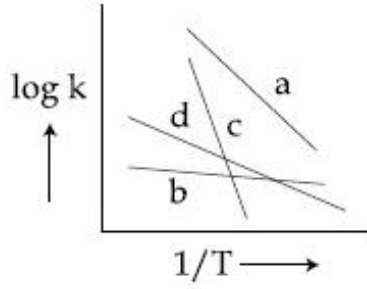
3. $E_c > E_a > E_d > E_b$

4. $E_b > E_a > E_d > E_c$

Question Number : 27 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

ચાર ભિન્ન પ્રક્રિયાઓ માટે, દર અચળાંક વિરુદ્ધ $\frac{1}{T}$ નો આલેખ ધ્યાનમાં લો. આ પ્રક્રિયાઓની સક્રિયકરણ શક્તિઓનો સાચો ક્રમ નીચેના માંથી કયો?



Options :

1. $E_b > E_d > E_c > E_a$

2. $E_a > E_c > E_d > E_b$

3. $E_c > E_a > E_d > E_b$

4. $E_b > E_a > E_d > E_c$

Question Number : 28 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

For the following Assertion and Reason,
the correct option is :

Assertion : The pH of water increases with
increase in temperature.

Reason : The dissociation of water into
 H^+ and OH^- is an exothermic
reaction.

Options :

Both assertion and reason are true,
and the reason is the correct

1. explanation for the assertion.

- Both assertion and reason are true,
but the reason is not the correct
2. explanation for the assertion.

- Assertion is not true, but reason is
3. true.

4. Both assertion and reason are false.

Question Number : 28 Question Type : MCQ Option Shuffling : Yes
Correct Marks : 4 Wrong Marks : 1

निम्नलिखित कथन तथा कारण के लिए सही विकल्प
है :

कथन : जल का pH ताप के बढ़ने से बढ़ता है।

कारण : जल का H^+ तथा OH^- में वियोजन
एक ऊष्मा-क्षेपी अभिक्रिया है।

Options :

- कथन तथा कारण दोनों सही हैं, तथा कारण
1. कथन की सही व्याख्या है।

- कथन तथा कारण दोनों सही हैं, परन्तु कारण
2. कथन की सही व्याख्या नहीं है।

3. कथन गलत है, परन्तु कारण सही है।

4. कथन तथा कारण दोनों गलत हैं।

Question Number : 28 Question Type : MCQ Option Shuffling : Yes
Correct Marks : 4 Wrong Marks : 1

નીચે કથન અને કારણ આપેલા છે. સાચો વિકલ્પ શોધો.

કથન : તાપમાન વધવાની સાથે પાણીની pH વધે છે.

કારણ : પાણીનું H^+ અને OH^- માં થતું વિયોજન એ એક ઉષ્માક્ષેપક પ્રક્રિયા છે.

Options :

1. કથન અને કારણ બંને સાચા છે અને કારણ એ કથનની સાચી સમજૂતી છે.
2. કથન અને કારણ બંને સાચા છે પરંતુ કારણ એ કથનની સાચી સમજૂતી છે.
3. કથન સાચું નથી પરંતુ કારણ સાચું છે.
4. કથન અને કારણ બંને ખોટાં છે.

Question Number : 29 Question Type : MCQ Option Shuffling : Yes
Correct Marks : 4 Wrong Marks : 1

The radius of the second Bohr orbit, in terms of the Bohr radius, a_0 , in Li^{2+} is :

Options :

1. $\frac{2a_0}{3}$
2. $\frac{4a_0}{3}$
3. $\frac{2a_0}{9}$

4. $\frac{4a_0}{9}$

Question Number : 29 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

Li^{2+} में द्वितीय बोर-कक्षक की त्रिज्या, बोर त्रिज्या, a_0 के रूप में, है :

Options :

1. $\frac{2a_0}{3}$

2. $\frac{4a_0}{3}$

3. $\frac{2a_0}{9}$

4. $\frac{4a_0}{9}$

Question Number : 29 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

બોહર ત્રિજ્યા a_0 ના સંદર્ભ માં, Li^{2+} બીજી બોહર કક્ષાની ત્રિજ્યા છે.

Options :

1. $\frac{2a_0}{3}$

2. $\frac{4a_0}{3}$

3. $\frac{2a_0}{9}$

4. $\frac{4a_0}{9}$

Question Number : 30 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

Arrange the following bonds according to their average bond energies in descending order :

C - Cl, C - Br, C - F, C - I

Options :

1. $C - Cl > C - Br > C - I > C - F$

2. $C - F > C - Cl > C - Br > C - I$

3. $C - I > C - Br > C - Cl > C - F$

4. $C - Br > C - I > C - Cl > C - F$

Question Number : 30 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित आबंधों को उनके औसत आबंध ऊर्जाओं के अनुसार घटते क्रम में क्रमबद्ध कीजिए :

C - Cl, C - Br, C - F, C - I

Options :

1. $C - Cl > C - Br > C - I > C - F$

2. $C - F > C - Cl > C - Br > C - I$

3. $C - I > C - Br > C - Cl > C - F$

4. $C - Br > C - I > C - Cl > C - F$

Question Number : 30 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

નીચે આપેલા બંધોને તેમની સરેરાશ બંધ ઉર્જાના ઉત્તરતા

ક્રમમાં ગોઠવો :

$C - Cl, C - Br, C - F, C - I$

Options :

1. $C - Cl > C - Br > C - I > C - F$

2. $C - F > C - Cl > C - Br > C - I$

3. $C - I > C - Br > C - Cl > C - F$

4. $C - Br > C - I > C - Cl > C - F$

Question Number : 31 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

Which of the following compounds is likely to show both Frenkel and Schottky defects in its crystalline form ?

Options :

1. ZnS

2. $CsCl$

3. KBr

4. AgBr

Question Number : 31 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित यौगिकों में से कौन अपने क्रिस्टलीय रूप में फ्रेन्केल तथा शॉटकी दोनों दोषों को प्रदर्शित करता है?

Options :

1. ZnS

2. CsCl

3. KBr

4. AgBr

Question Number : 31 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

સ્ફટિકીય રૂપમાં નીચેના સંયોજનોમાંનો કયો ઇન્કલ અને શોટ્કી એ બંને ત્રુટિઓ દર્શાવે છે?

Options :

1. ZnS

2. CsCl

3. KBr

4. AgBr

Question Number : 32 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

The increasing order of the atomic radii of the following elements is :

- (a) C (b) O (c) F
(d) Cl (e) Br

Options :

1. (a) < (b) < (c) < (d) < (e)

2. (b) < (c) < (d) < (a) < (e)

3. (c) < (b) < (a) < (d) < (e)

4. (d) < (c) < (b) < (a) < (e)

Question Number : 32 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित तत्वों की परमाणु त्रिज्याओं का बढ़ता क्रम है :

- (a) C (b) O (c) F
(d) Cl (e) Br

Options :

1. (a) < (b) < (c) < (d) < (e)

2. (b) < (c) < (d) < (a) < (e)

3. (c) < (b) < (a) < (d) < (e)

4. (d) < (c) < (b) < (a) < (e)

Question Number : 32 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

નીચે આપેલા તત્વોની પરમાણ્વીય ત્રિજ્યાનો ચઢતો ક્રમ

છે :

(a) C (b) O (c) F

(d) Cl (e) Br

Options :

1. (a) < (b) < (c) < (d) < (e)

2. (b) < (c) < (d) < (a) < (e)

3. (c) < (b) < (a) < (d) < (e)

4. (d) < (c) < (b) < (a) < (e)

Question Number : 33 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

Among the reactions (a) - (d), the reaction(s) that does/do not occur in the blast furnace during the extraction of iron is/are :

(a) $\text{CaO} + \text{SiO}_2 \rightarrow \text{CaSiO}_3$

(b) $3\text{Fe}_2\text{O}_3 + \text{CO} \rightarrow 2\text{Fe}_3\text{O}_4 + \text{CO}_2$

(c) $\text{FeO} + \text{SiO}_2 \rightarrow \text{FeSiO}_3$

(d) $\text{FeO} \rightarrow \text{Fe} + \frac{1}{2}\text{O}_2$

Options :

1. (a)

2. (d)

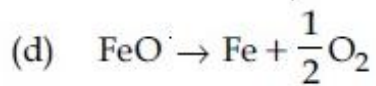
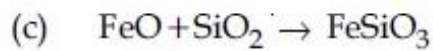
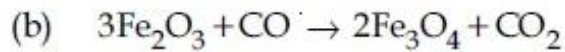
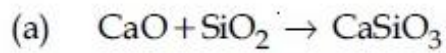
3. (c) and (d)

4. (a) and (d)

Question Number : 33 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

अभिक्रियाओं (a) - (d), में से वात्याभट्टी में आयरन के निष्कर्षण के दौरान नहीं घटित होने वाली अभिक्रिया/ अभिक्रियायें है/हैं :



Options :

1. (a)

2. (d)

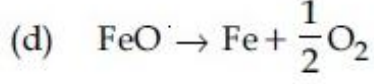
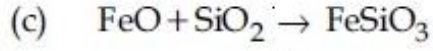
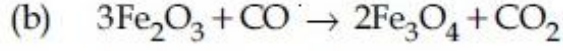
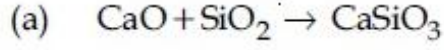
3. (c) तथा (d)

4. (a) तथा (d)

Question Number : 33 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

આપેલી પ્રક્રિયાઓ (a) - (d) પૈકી, પ્રક્રિયા (ઓ) કે જે આયર્નના નિષ્કર્ષણ દરિમ્યાન વાત ભટ્ટીમાં થાય છે/થતી નથી તે/તેઓ :



Options :

1. (a)

2. (d)

3. (c) અને (d)

4. (a) અને (d)

Question Number : 34 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

Hydrogen has three isotopes (A), (B) and (C). If the number of neutron(s) in (A), (B) and (C) respectively, are (x), (y) and (z), the sum of (x), (y) and (z) is :

Options :

1. 1

2. 2

3. 3

4. 4

Question Number : 34 Question Type : MCQ Option Shuffling : Yes
Correct Marks : 4 Wrong Marks : 1

हाइड्रोजन के तीन समस्थानिक (A), (B) तथा (C) हैं।
यदि (A), (B) तथा (C) के न्यूट्रॉनों की संख्या क्रमशः
(x), (y) तथा (z) हैं तो (x), (y) तथा (z) का योग है :

Options :

1. 1

2. 2

3. 3

4. 4

Question Number : 34 Question Type : MCQ Option Shuffling : Yes
Correct Marks : 4 Wrong Marks : 1

હાઇડ્રોજનના ત્રણ સમસ્થાનિકો (A), (B) અને (C) છે.
(A), (B) અને (C) માં ન્યુટ્રોન ની સંખ્યા અનુક્રમે
(x), (y) અને (z) હોય તો (x), (y) અને (z) નો સરવાળો
છે :

Options :

1. 1

2. 2

3. 3

4. 4

Question Number : 35 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

A metal (A) on heating in nitrogen gas gives compound B. B on treatment with H_2O gives a colourless gas which when passed through $CuSO_4$ solution gives a dark blue-violet coloured solution. A and B respectively, are :

Options :

1. Na and Na_3N
2. Mg and Mg_3N_2
3. Mg and $Mg(NO_3)_2$
4. Na and $NaNO_3$

Question Number : 35 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

एक धातु (A) नाइट्रोजन गैस में गरम करने पर यौगिक B देता है। B, H_2O के साथ उपचारित करने पर एक रंगहीन गैस देता है जिसको $CuSO_4$ के विलयन से प्रवाहित करने पर एक गहरे नीले-बैंगनी रंग का विलयन देता है। A तथा B क्रमशः हैं :

Options :

1. Na तथा Na_3N
2. Mg तथा Mg_3N_2

3. Mg તથા $Mg(NO_3)_2$

4. Na તથા $NaNO_3$

Question Number : 35 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

એક ધાતુ (A) ને નાઈટ્રોજન વાયુ સાથે ગરમ કરવા સંયોજન B મળે છે. B ની પાણી સાથે પ્રક્રિયા કરતા રંગવિહીન વાયુ મળે છે તેને $CuSO_4$ નાં દ્રાવણમાંથી પસાર કરતા ગાઢા ભૂરો-જાંબલી રંગનું દ્રાવણ મળે છે. A અને B અનુક્રમે છે :

Options :

1. Na અને Na_3N

2. Mg અને Mg_3N_2

3. Mg અને $Mg(NO_3)_2$

4. Na અને $NaNO_3$

Question Number : 36 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

White phosphorus on reaction with concentrated NaOH solution in an inert atmosphere of CO_2 gives phosphine and compound (X). (X) on acidification with HCl gives compound (Y). The basicity of compound (Y) is :

Options :

1. 1

2. 2

3. 3

4. 4

Question Number : 36 Question Type : MCQ Option Shuffling : Yes
Correct Marks : 4 Wrong Marks : 1

સફેદ ફાસ્ફોરસ સાન્દ્ર NaOH વિલયન કે સાથ CO_2 કે ઁક નિષ્ક્રિય વાતાવરણ મેં અભિક્રિયા કરકે ફાસ્ફીન તથા યૌગિક (X) દેતા હૈ। (X), HCl કે સાથ અમ્લીકૃત હોકર યૌગિક (Y) દેતા હૈ। યૌગિક (Y) કી ક્ષારકતા હૈ :

Options :

1. 1

2. 2

3. 3

4. 4

Question Number : 36 Question Type : MCQ Option Shuffling : Yes
Correct Marks : 4 Wrong Marks : 1

સફેદ ફોસ્ફોરસની સાંદ્ર NaOH દ્રાવણસાથે CO_2 ના નિષ્ક્રિય વાતાવરણમાં પ્રક્રિયા કરતા ફોસ્ફીન અને સંયોજન (X) મળે છે. (X) નું HCl સાથે એસીટીકરણ કરતાં સંયોજન (Y) મળે છે. સંયોજન (Y) ની બેઝિકતા છે :

Options :

1. 1

2. 2

3. 3

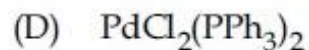
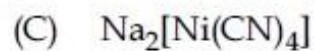
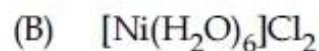
4. 4

Question Number : 37 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

The correct order of the calculated spin-only magnetic moments of complexes

(A) to (D) is :



Options :

1. $(\text{C}) < (\text{D}) < (\text{B}) < (\text{A})$

2. $(\text{C}) \approx (\text{D}) < (\text{B}) < (\text{A})$

3. $(\text{A}) \approx (\text{C}) < (\text{B}) \approx (\text{D})$

4. $(\text{A}) \approx (\text{C}) \approx (\text{D}) < (\text{B})$

Question Number : 37 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

સંકુલો (A) - (D) કે પ્રચક્રણ-માત્ર ચુમ્બકીય આઘૂર્ણો
કા સઢી ક્રમ હૈ :

- (A) $\text{Ni}(\text{CO})_4$
- (B) $[\text{Ni}(\text{H}_2\text{O})_6]\text{Cl}_2$
- (C) $\text{Na}_2[\text{Ni}(\text{CN})_4]$
- (D) $\text{PdCl}_2(\text{PPh}_3)_2$

Options :

1. $(\text{C}) < (\text{D}) < (\text{B}) < (\text{A})$
2. $(\text{C}) \approx (\text{D}) < (\text{B}) < (\text{A})$
3. $(\text{A}) \approx (\text{C}) < (\text{B}) \approx (\text{D})$
4. $(\text{A}) \approx (\text{C}) \approx (\text{D}) < (\text{B})$

Question Number : 37 Question Type : MCQ Option Shuffling : Yes
Correct Marks : 4 Wrong Marks : 1

સંકીર્ણો (A) - (D) ની ગણેલી ફક્ત સ્પીન ચુંબકીય
ચાકમાત્રાનો સાથો ક્રમ છે :

- (A) $\text{Ni}(\text{CO})_4$
- (B) $[\text{Ni}(\text{H}_2\text{O})_6]\text{Cl}_2$
- (C) $\text{Na}_2[\text{Ni}(\text{CN})_4]$
- (D) $\text{PdCl}_2(\text{PPh}_3)_2$

Options :

1. $(\text{C}) < (\text{D}) < (\text{B}) < (\text{A})$
2. $(\text{C}) \approx (\text{D}) < (\text{B}) < (\text{A})$

3. $(A) \approx (C) < (B) \approx (D)$

4. $(A) \approx (C) \approx (D) < (B)$

Question Number : 38 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

Among (a) – (d), the complexes that can display geometrical isomerism are :

- (a) $[\text{Pt}(\text{NH}_3)_3\text{Cl}]^+$
- (b) $[\text{Pt}(\text{NH}_3)\text{Cl}_5]^-$
- (c) $[\text{Pt}(\text{NH}_3)_2\text{Cl}(\text{NO}_2)]$
- (d) $[\text{Pt}(\text{NH}_3)_4\text{ClBr}]^{2+}$

Options :

1. (a) and (b)

2. (b) and (c)

3. (c) and (d)

4. (d) and (a)

Question Number : 38 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

(a) – (d) में से, संकुल जो ज्यामितीय समावयवता प्रदर्शित कर सकते हैं, हैं :

- (a) $[\text{Pt}(\text{NH}_3)_3\text{Cl}]^+$
- (b) $[\text{Pt}(\text{NH}_3)\text{Cl}_5]^-$
- (c) $[\text{Pt}(\text{NH}_3)_2\text{Cl}(\text{NO}_2)]$
- (d) $[\text{Pt}(\text{NH}_3)_4\text{ClBr}]^{2+}$

Options :

1. (a) તથા (b)

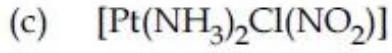
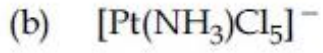
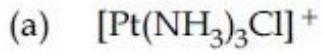
2. (b) તથા (c)

3. (c) તથા (d)

4. (d) તથા (a)

Question Number : 38 Question Type : MCQ Option Shuffling : Yes
Correct Marks : 4 Wrong Marks : 1

(a) – (d) પૈકી, સંકીર્ણ જે ભૌમિતિક સમઘટક દર્શાવે છે તેઓ :



Options :

1. (a) અને (b)

2. (b) અને (c)

3. (c) અને (d)

4. (d) અને (a)

Question Number : 39 Question Type : MCQ Option Shuffling : Yes
Correct Marks : 4 Wrong Marks : 1

Two monomers in maltose are :

Options :

1. α -D-glucose and α -D-Fructose
2. α -D-glucose and α -D-glucose
3. α -D-glucose and α -D-galactose
4. α -D-glucose and β -D-glucose

Question Number : 39 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

માલ્ટોસ મેં દો ઇકલક હૈં :

Options :

1. α -D-ગ્લૂકોસ તથા α -D-ફ્રૂક્ટોસ
2. α -D-ગ્લૂકોસ તથા α -D-ગ્લૂકોસ
3. α -D-ગ્લૂકોસ તથા α -D-ગૈલેક્ટોસ
4. α -D-ગ્લૂકોસ તથા β -D-ગ્લૂકોસ

Question Number : 39 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

માલ્ટોઝના બે મોનોમર છે :

Options :

1. α -D-ગ્લુકોઝ અને α -D-ફ્રુક્ટોઝ

2. α -D-ઝુકોઝ અને α -D-ઝુકોઝ

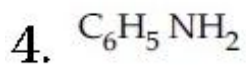
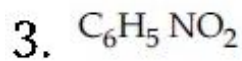
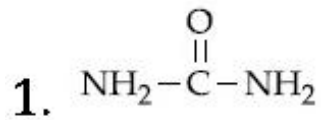
3. α -D-ઝુકોઝ અને α -D-ગેલેક્ટોઝ

4. α -D-ઝુકોઝ અને β -D-ઝુકોઝ

Question Number : 40 Question Type : MCQ Option Shuffling : Yes
Correct Marks : 4 Wrong Marks : 1

Kjeldahl's method cannot be used to estimate nitrogen for which of the following compounds ?

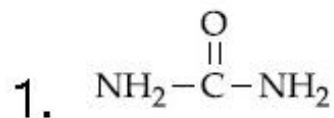
Options :

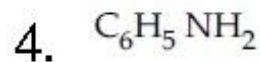
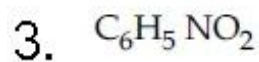


Question Number : 40 Question Type : MCQ Option Shuffling : Yes
Correct Marks : 4 Wrong Marks : 1

નિમ્નલિખિત યૌગિકોં મેં સે કિસકે લિએ નાઇટ્રોજન કે આકલન કે લિએ કેલ્ડાલ વિધિ કા ઉપયોગ નહીં કિયા જા સકતા હૈ ?

Options :



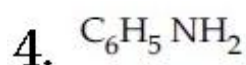
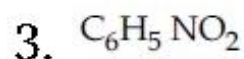
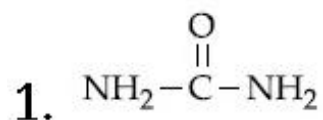


Question Number : 40 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

જેલ્ડાહલની રીતથી નાઈટ્રોજનના પરિમાપનમાં નીચેના માંથી કયા સંયોજનો વાપરી ન શકાય?

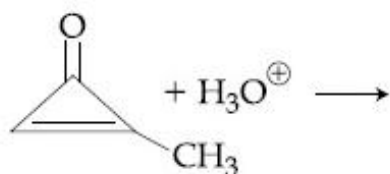
Options :



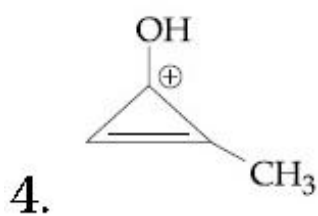
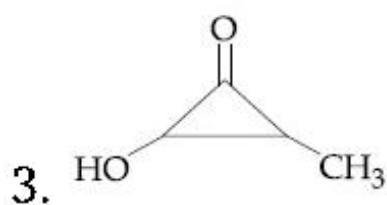
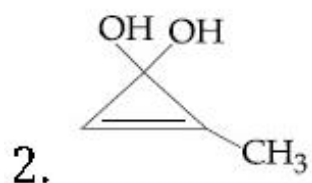
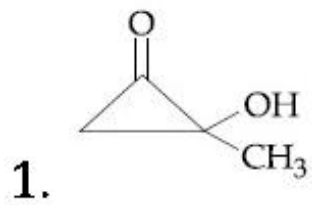
Question Number : 41 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

The major product in the following reaction is :



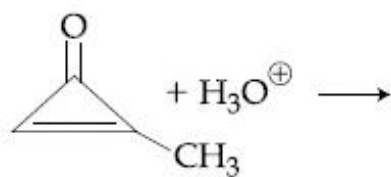
Options :



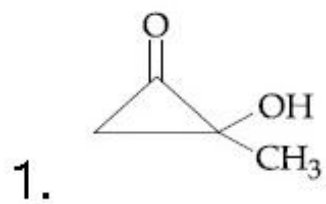
Question Number : 41 Question Type : MCQ Option Shuffling : Yes

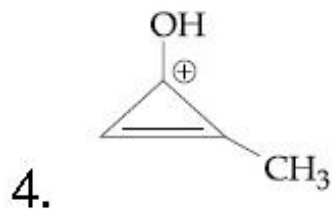
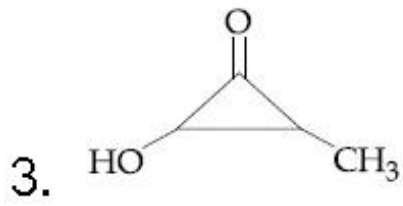
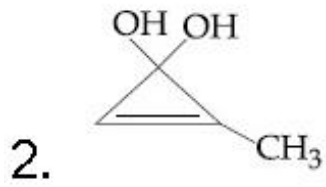
Correct Marks : 4 Wrong Marks : 1

निम्नलिखित अभिक्रिया में मुख्य उत्पाद है :



Options :

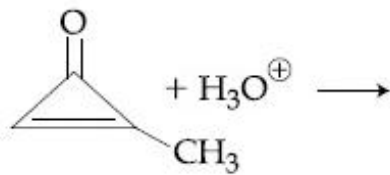




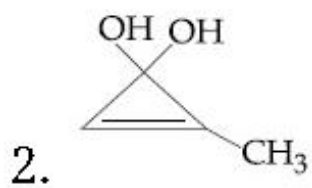
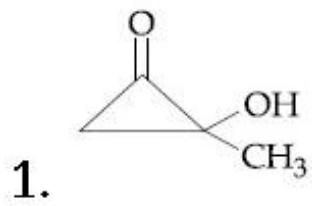
Question Number : 41 Question Type : MCQ Option Shuffling : Yes

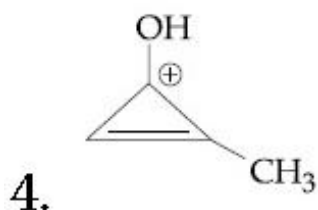
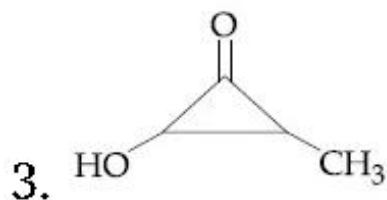
Correct Marks : 4 Wrong Marks : 1

નીચેની પ્રક્રિયાની મુખ્ય નીપજ છે :



Options :

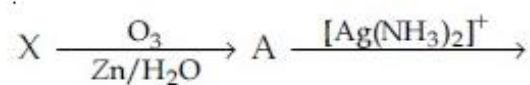




Question Number : 42 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

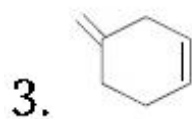
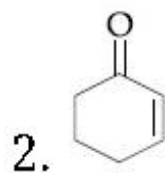
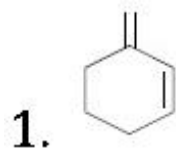
An unsaturated hydrocarbon X absorbs two hydrogen molecules on catalytic hydrogenation, and also gives following reaction :

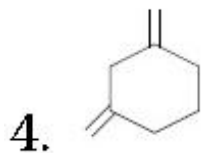


B(3-oxo-hexanedicarboxylic acid)

X will be :

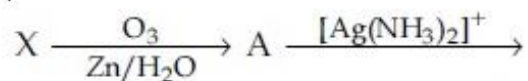
Options :





Question Number : 42 Question Type : MCQ Option Shuffling : Yes
Correct Marks : 4 Wrong Marks : 1

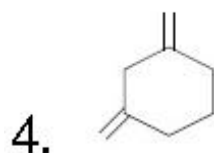
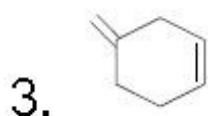
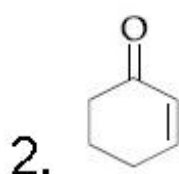
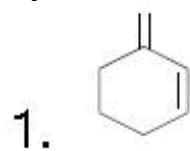
एक असंतृप्त हाइड्रोकार्बन X उत्प्रेरित हाइड्रोजनीकरण करने पर हाइड्रोजन के दो अणुओं को अवशोषित करता है तथा निम्नलिखित अभिक्रिया भी देता है :



B(3-oxo-hexanedicarboxylic acid)

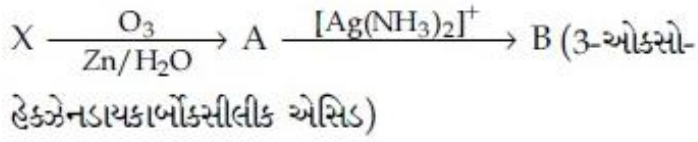
X होगा :

Options :



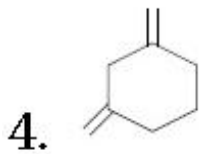
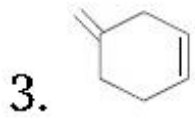
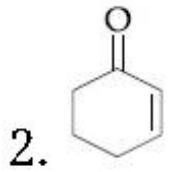
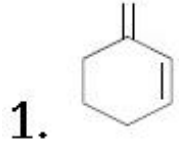
Question Number : 42 Question Type : MCQ Option Shuffling : Yes
Correct Marks : 4 Wrong Marks : 1

કેટાલિટીક હાઇડ્રોજનેશનમાં એક સસંતૃપ્ત હાઇડ્રોકાર્બન X હાઇડ્રોજનના બે આણુઓનું શોષણ કરે છે અને નીચેની પ્રક્રિયાઓ પણ આપે છે :



X હશે :

Options :



Question Number : 43 Question Type : MCQ Option Shuffling : Yes
Correct Marks : 4 Wrong Marks : 1

Preparation of Bakelite proceeds via reactions :

Options :

Electrophilic substitution and

1. dehydration

2. Electrophilic addition and dehydration

3. Nucleophilic addition and dehydration

4. Condensation and elimination

Question Number : 43 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

બેકેલાઈટ કા વિરચન નિમ્નલિખિત અભિક્રિયાઓં સે
હોકર અગ્રસરિત હોતા હૈ :

Options :

1. ઇલેક્ટ્રૉનસ્નેહી પ્રતિસ્થાપન તથા નિર્જલન

2. ઇલેક્ટ્રૉનસ્નેહી યોગજ તથા નિર્જલન

3. નાભિકસ્નેહી યોગજ તથા નિર્જલન

4. સંઘનન ઔર નિરાકરણ

Question Number : 43 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

બેકેલાઈટની બનાવટ કઈ પ્રક્રિયાથી થાય છે :

Options :

1. ઇલેક્ટ્રોન અનુરાગી વિસ્થાપન અને નિર્જળીકરણ

2. ઇલેક્ટ્રોન અનુરાગી યોગશીલ અને નિર્જળીકરણ

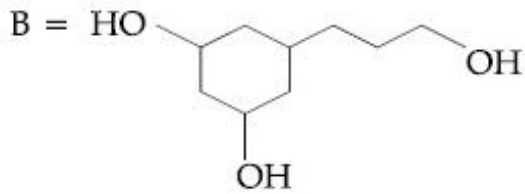
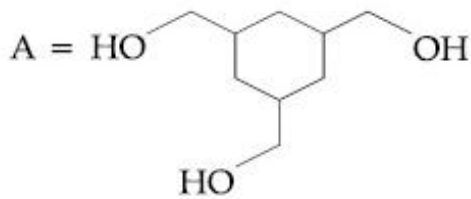
3. કેન્દ્ર અનુરાગી યોગશીલ અને નિર્જળીકરણ

4. સંઘનન અને નિરસન

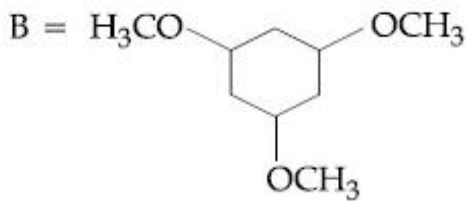
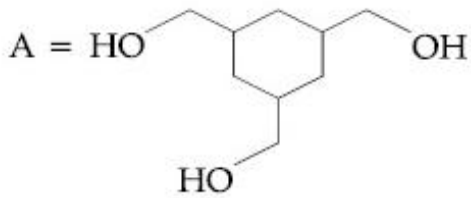
Question Number : 44 Question Type : MCQ Option Shuffling : Yes
Correct Marks : 4 Wrong Marks : 1

Among the compounds A and B with molecular formula $C_9H_{18}O_3$, A is having higher boiling point than B. The possible structures of A and B are :

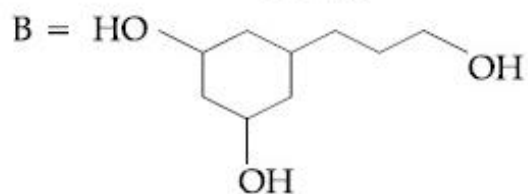
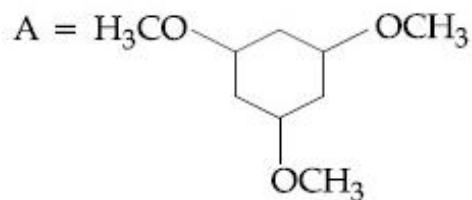
Options :



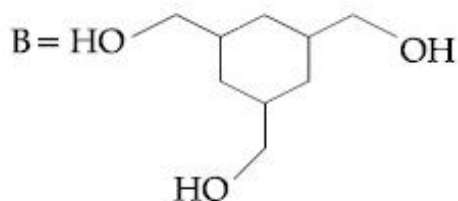
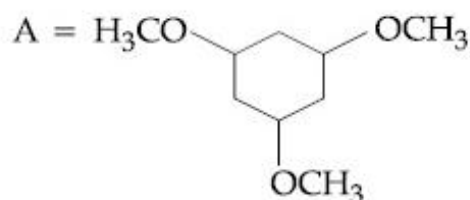
1.



2.



3.



4.

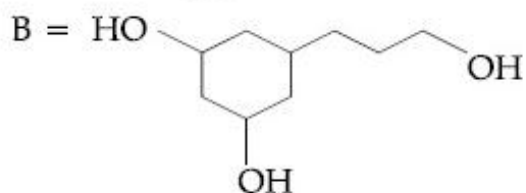
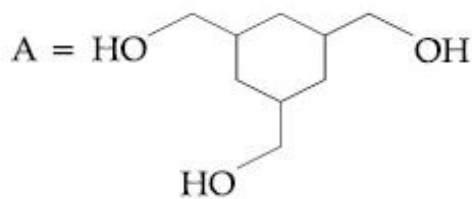
Question Number : 44 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

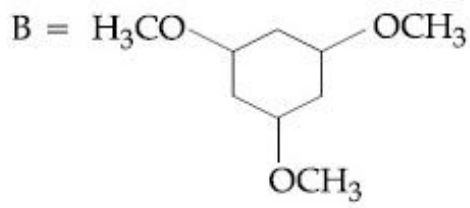
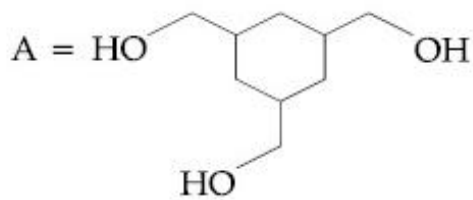
यौगिकों A तथा B, जिनका आण्विक सूत्र $C_9H_{18}O_3$ है, में से B की अपेक्षा A का क्वथनांक अधिक है।

A तथा B की संभावित संरचनाएँ हैं :

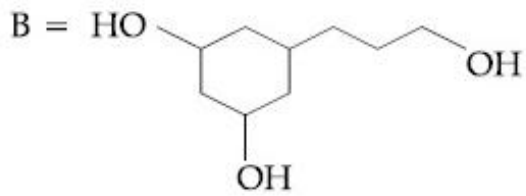
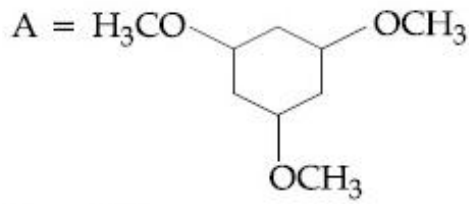
Options :



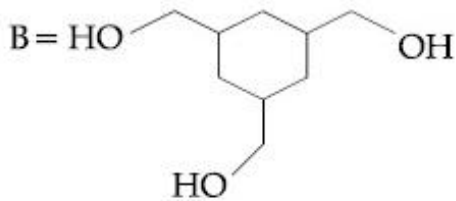
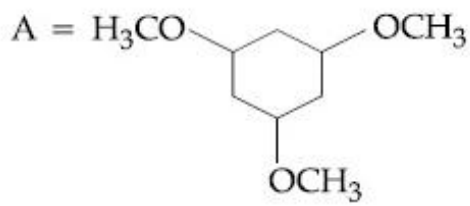
1.



2.



3.



4.

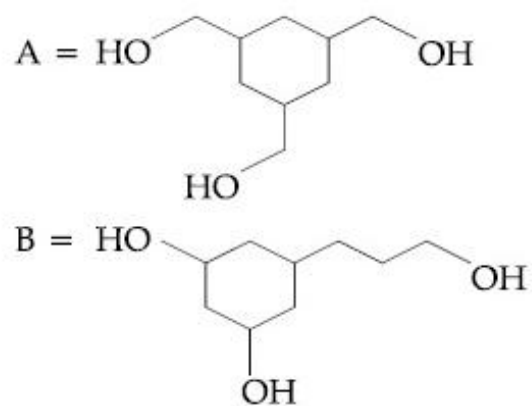
Question Number : 44 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

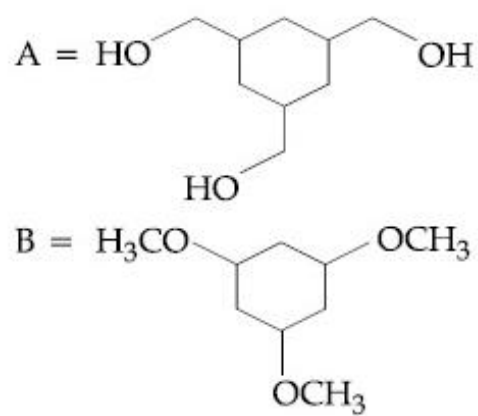
$C_9H_{18}O_3$ અણુસૂત્ર ધરાવતા સંયોજનો A અને B પૈકી, A નું ઉત્કલનબિંદુ B કરતા વધુ છે. A અને B ના શક્ય બંધારણો છે :

Options :

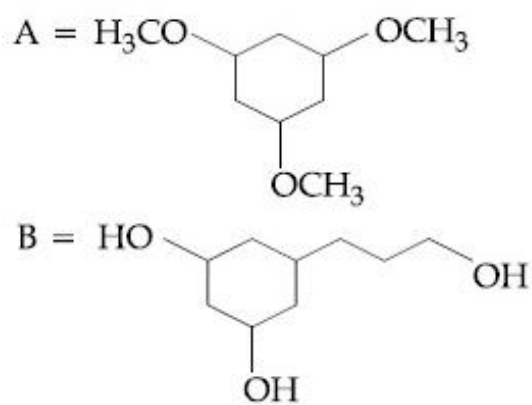
1.

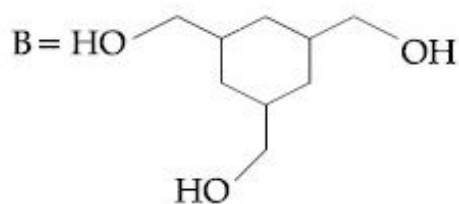
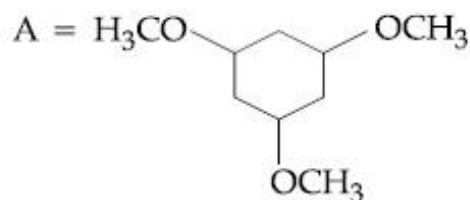


2.



3.



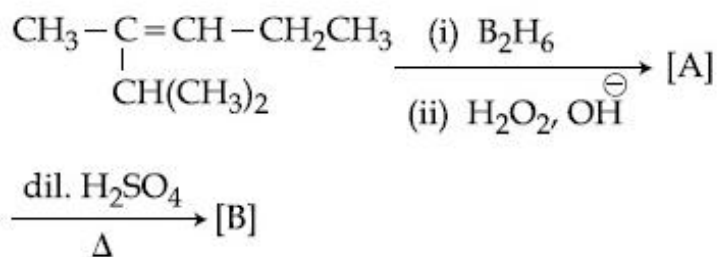


4.

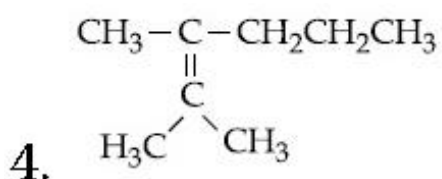
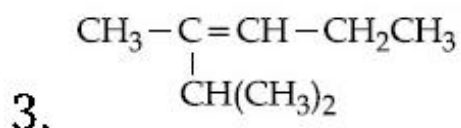
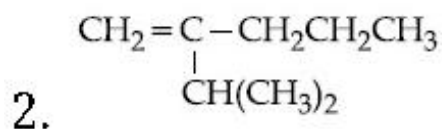
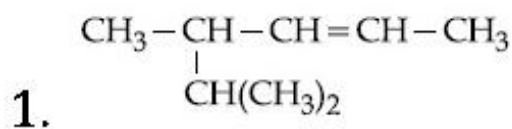
Question Number : 45 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 4 Wrong Marks : 1

The major product [B] in the following sequence of reactions is :



Options :

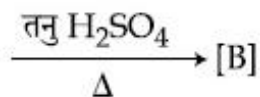
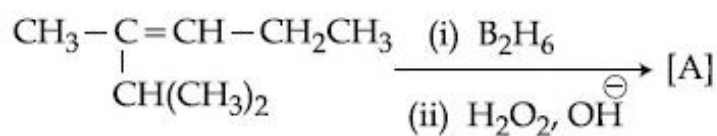


Question Number : 45 Question Type : MCQ Option Shuffling : Yes

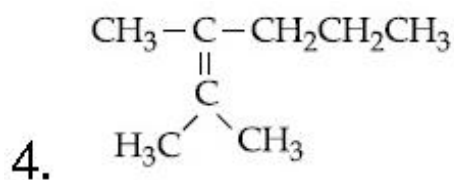
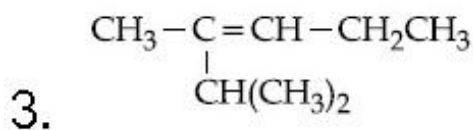
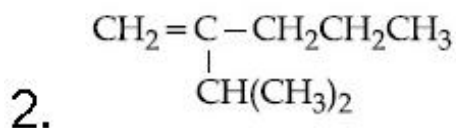
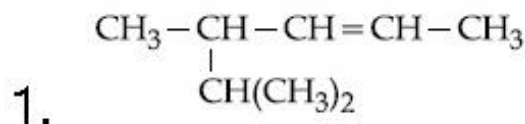
Correct Marks : 4 Wrong Marks : 1

निम्नलिखित अभिक्रिया-अनुक्रम में मुख्य उत्पाद [B]

है :



Options :

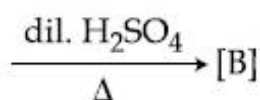
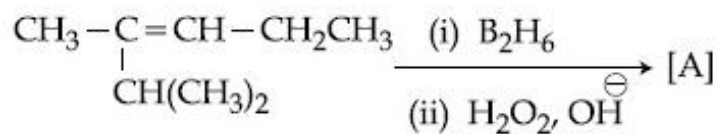


Question Number : 45 Question Type : MCQ Option Shuffling : Yes

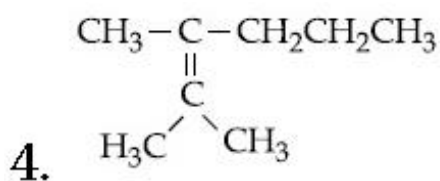
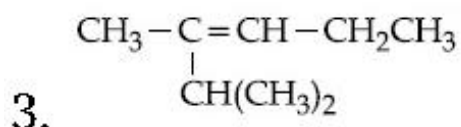
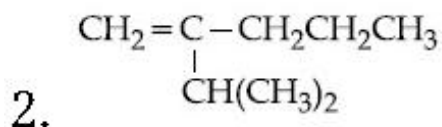
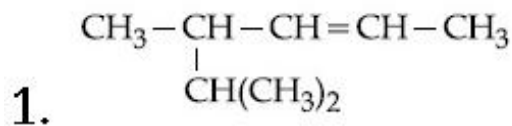
Correct Marks : 4 Wrong Marks : 1

આપેલી પ્રક્રિયાઓની શ્રેણીમાં ની મુખ્ય નીપજ [B]

શોધો :



Options :



Sub-Section Number:

2

Sub-Section Id:

405036107

Question Shuffling Allowed :

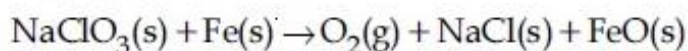
Yes

Question Number : 46 Question Type : SA

Correct Marks : 4 Wrong Marks : 0

NaClO_3 is used, even in spacecrafts, to produce O_2 . The daily consumption of pure O_2 by a person is 492 L at 1 atm, 300 K. How much amount of NaClO_3 , in grams, is required to produce O_2 for the daily consumption of a person at 1 atm, 300 K ?

_____.



$$R = 0.082 \text{ L atm mol}^{-1} \text{ K}^{-1}$$

Response Type: Numeric

Evaluation Required For SA: Yes

Show Word Count: Yes

Answers Type: Range

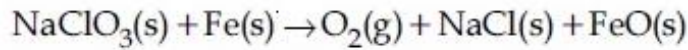
Possible Answers :

2120 to 2140

Question Number : 46 Question Type : SA

Correct Marks : 4 Wrong Marks : 0

NaClO_3 का उपयोग O_2 के उत्पादन के लिए, अंतरिक्ष यानों में भी, किया जाता है। एक व्यक्ति द्वारा शुद्ध ऑक्सीजन की प्रतिदिन की खपत 492 L (1 atm, 300 K पर) है। 1 atm, 300 K पर व्यक्ति के प्रतिदिन की खपत के लिए ऑक्सीजन के उत्पादन के लिए आवश्यक NaClO_3 की मात्रा (g में) होगी _____.



$$R = 0.082 \text{ L atm mol}^{-1} \text{ K}^{-1}$$

Response Type: Numeric

Evaluation Required For SA: Yes

Show Word Count: Yes

Answers Type: Range

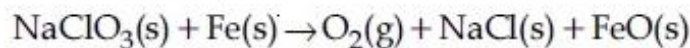
Possible Answers :

2120 to 2140

Question Number : 46 Question Type : SA

Correct Marks : 4 Wrong Marks : 0

NaClO_3 નો અવકાશયાનમાં O_2 ઉત્પાદન કરવામાં વપરાય છે. 1 વાતા અને 300 K એ એક વ્યક્તિની શુદ્ધ ઓક્સીજનની દૈનિક ખપત 492 L છે. તે વ્યક્તિની દૈનિક ખપત માટે 1 વાતા અને 300 K એ જરૂરી O_2 માટે NaClO_3 ની માત્રા (g માં) _____.



$$R = 0.082 \text{ L atm mol}^{-1} \text{ K}^{-1}$$

Response Type: Numeric

Evaluation Required For SA: Yes

Show Word Count: Yes

Answers Type: Range

Possible Answers :

2120 to 2140

Question Number : 47 Question Type : SA

Correct Marks : 4 Wrong Marks : 0

At constant volume, 4 mol of an ideal gas when heated from 300 K to 500 K changes its internal energy by 5000 J. The molar heat capacity at constant volume is _____.

Response Type: Numeric

Evaluation Required For SA: Yes

Show Word Count: Yes

Answers Type: Range

Possible Answers :

6.25 to 6.25

Question Number : 47 Question Type : SA

Correct Marks : 4 Wrong Marks : 0

स्थिर आयतन पर, एक आदर्श गैस के 4 mol को जब 300 K से 500 K तक गरम किया जाता है तो इसकी आंतरिक ऊर्जा में 5000 J का परिवर्तन होता है। स्थिर आयतन पर मोलर ऊष्मा धारिता है _____।

Response Type: Numeric

Evaluation Required For SA: Yes

Show Word Count: Yes

Answers Type: Range

Possible Answers :

6.25 to 6.25

Question Number : 47 Question Type : SA

Correct Marks : 4 Wrong Marks : 0

અચળ દબાણે, એક આદર્શવાયુના 4 મોલને 300 K થી 500 K ગરમ કરતાં તેની આંતરિક ઉર્જામાં 5000 J નો ફેરફાર થાય છે. અચળ દબાણે મોલર ઉષ્મા ક્ષમતા છે _____.

Response Type: Numeric

Evaluation Required For SA: Yes

Show Word Count: Yes

Answers Type: Range

Possible Answers :

6.25 to 6.25

Question Number : 48 Question Type : SA

Correct Marks : 4 Wrong Marks : 0

For an electrochemical cell



the ratio $\frac{[\text{Sn}^{2+}]}{[\text{Pb}^{2+}]}$ when this cell attains equilibrium is _____.

$$\left(\text{Given : } E_{\text{Sn}^{2+}|\text{Sn}}^0 = -0.14\text{V}, \right.$$

$$\left. E_{\text{Pb}^{2+}|\text{Pb}}^0 = -0.13\text{V}, \frac{2.303RT}{F} = 0.06 \right)$$

Response Type: Numeric

Evaluation Required For SA: Yes

Show Word Count: Yes

Answers Type: Range

Possible Answers :

2.13 to 2.17

Question Number : 48 Question Type : SA

Correct Marks : 4 Wrong Marks : 0

एक वैद्युतरासायनिक सेल



के लिए, जब सेल साम्यावस्था को प्राप्त करता है, तो

अनुपात $\frac{[\text{Sn}^{2+}]}{[\text{Pb}^{2+}]}$ है _____ ।

(दिया गया है : $E_{\text{Sn}^{2+}|\text{Sn}}^0 = -0.14\text{V}$,

$$E_{\text{Pb}^{2+}|\text{Pb}}^0 = -0.13\text{V}, \frac{2.303RT}{F} = 0.06)$$

Response Type: Numeric

Evaluation Required For SA: Yes

Show Word Count: Yes

Answers Type: Range

Possible Answers :

2.13 to 2.17

Question Number : 48 Question Type : SA

Correct Marks : 4 Wrong Marks : 0

એક ઇલેક્ટ્રોરાસાયણિક કોશ માટે,



જ્યારે કોશ સંતુલન અવસ્થા પ્રાપ્ત કરે છે ત્યારે $\frac{[\text{Sn}^{2+}]}{[\text{Pb}^{2+}]}$

નો ગુણોત્તર છે _____.

(આપેલ : $E_{\text{Sn}^{2+}|\text{Sn}}^0 = -0.14\text{V}$,

$$E_{\text{Pb}^{2+}|\text{Pb}}^0 = -0.13\text{V}, \frac{2.303RT}{F} = 0.06)$$

Response Type: Numeric

Evaluation Required For SA: Yes

Show Word Count: Yes

Answers Type: Range

Possible Answers :

2.13 to 2.17

Question Number : 49 Question Type : SA

Correct Marks : 4 Wrong Marks : 0

Complexes (ML_5) of metals Ni and Fe have ideal square pyramidal and trigonal bipyramidal geometries, respectively. The sum of the 90° , 120° and 180° L-M-L angles in the two complexes is _____.

Response Type: Numeric

Evaluation Required For SA: Yes

Show Word Count: Yes

Answers Type: Range

Possible Answers :

20 to 20

Question Number : 49 Question Type : SA

Correct Marks : 4 Wrong Marks : 0

Ni तथा Fe धातुओं के संकुलों (ML_5) की ज्यामितियाँ क्रमशः आदर्श वर्ग पिरेमिडी तथा त्रिसमनताक्ष द्विपिरेमिडी हैं। दोनों संकुलों में 90° , 120° तथा 180° L-M-L कोणों का योग है _____।

Response Type: Numeric

Evaluation Required For SA: Yes

Show Word Count: Yes

Answers Type: Range

Possible Answers :

20 to 20

Question Number : 49 Question Type : SA

Correct Marks : 4 Wrong Marks : 0

ધાતુઓ Ni અને Fe ના સંકીર્ણો (ML_5) અનુક્રમે આદર્શ સમચોરસ પિરામિડ અને ત્રિકોણીય દ્વિપિરામિડ ભૂમિતિઓ ધરાવે છે. બે સંકીર્ણો ના 90° , 120° અને 180° L-M-L ખૂણાઓનો સરવાળો છે _____.

Response Type: Numeric

Evaluation Required For SA: Yes

Show Word Count: Yes

Answers Type: Range

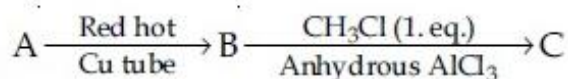
Possible Answers :

20 to 20

Question Number : 50 Question Type : SA

Correct Marks : 4 Wrong Marks : 0

In the following sequence of reactions the maximum number of atoms present in molecule 'C' in one plane is _____.



(A is a lowest molecular weight alkyne)

Response Type: Numeric

Evaluation Required For SA: Yes

Show Word Count: Yes

Answers Type: Range

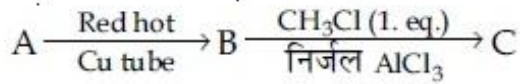
Possible Answers :

13 to 13

Question Number : 50 Question Type : SA

Correct Marks : 4 Wrong Marks : 0

निम्नलिखित अभिक्रिया अनुक्रम में अणु 'C' में एक तल में, उपस्थित परमाणुओं की अधिकतम संख्या है _____।



(A एक अल्पतम अणुभार की एल्काइन है)

Response Type: Numeric

Evaluation Required For SA: Yes

Show Word Count: Yes

Answers Type: Range

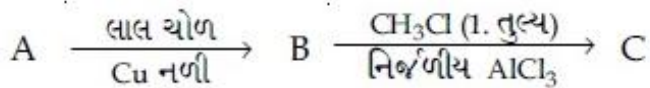
Possible Answers :

13 to 13

Question Number : 50 **Question Type :** SA

Correct Marks : 4 **Wrong Marks :** 0

આપેલી પ્રક્રિયા શ્રેણીમાં, અણુ 'C' માં એક જ તલમાં હાજર પરમાણુઓની મહત્તમ સંખ્યા છે _____.



(A એક ન્યુનતમ અણુભાર ધરાવતો આલ્કાઈન)

Response Type: Numeric

Evaluation Required For SA: Yes

Show Word Count: Yes

Answers Type: Range

Possible Answers :

13 to 13