

National Testing Agency

Question Paper Name :	BTECH E 3rd Sep 2020 Shift 2
Subject Name :	BTECH E
Creation Date :	2020-09-03 20:32:57
Duration :	180
Total Marks :	300
Display Marks:	Yes
Share Answer Key With Delivery Engine :	Yes
Actual Answer Key :	Yes

BTECH

Group Number :	1
Group Id :	405036120
Group Maximum Duration :	0
Group Minimum Duration :	180
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	300
Is this Group for Examiner? :	No

Chemistry

Section Id :	405036401
Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	25
Number of Questions to be attempted :	25
Section Marks :	100
Display Number Panel :	Yes
Group All Questions :	Yes
Mark As Answered Required? :	Yes
Sub-Section Number :	1
Sub-Section Id :	405036769
Question Shuffling Allowed :	Yes

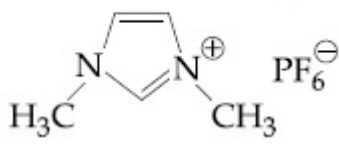
Question Number : 26 Question Id : 40503611031 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option
Orientation : Vertical
Correct Marks : 4 Wrong Marks : 1

An ionic micelle is formed on the addition
of :

Options :

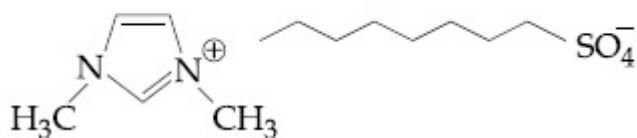
40503640096. liquid diethyl ether to aqueous NaCl
solution

excess water to liquid

40503640097.  PF₆[⊖]

40503640098. sodium stearate to pure toluene

excess water to liquid



Question Number : 26 Question Id : 40503611031 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option
Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

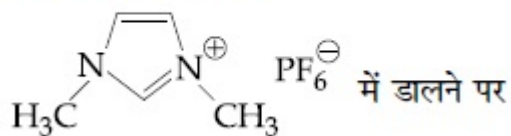
एक आयनिक मिसेल बनता है :

Options :

द्रव डाइएथिल ईथर को जलीय NaCl विलयन
में डालने पर

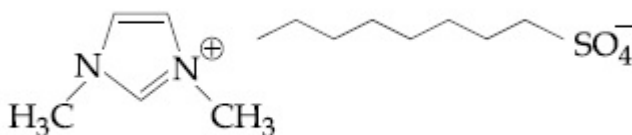
40503640096.

जल-आधिक्य को द्रव



40503640098. सोडियम स्टीरेट को शुद्ध टालूईन में डालने पर

जल-आधिक्य को द्रव



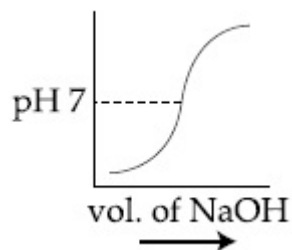
में डालने पर

Question Number : 27 Question Id : 40503611032 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option
Orientation : Vertical

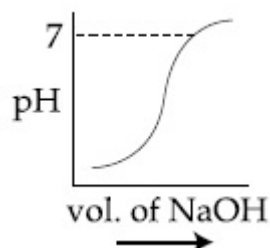
Correct Marks : 4 Wrong Marks : 1

100 mL of 0.1 M HCl is taken in a beaker
and to it 100 mL of 0.1 M NaOH is added
in steps of 2 mL and the pH is continuously
measured. Which of the following graphs
correctly depicts the change in pH ?

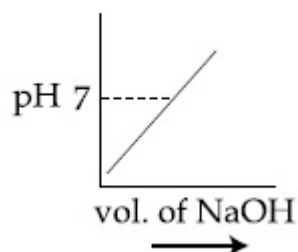
Options :



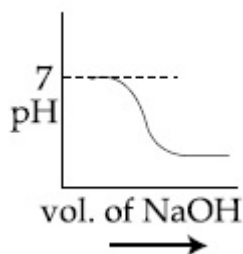
40503640100.



40503640101.



40503640102.



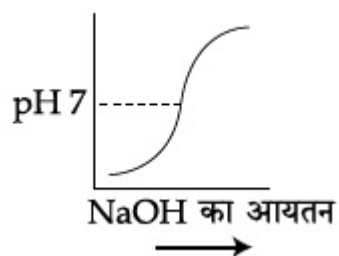
40503640103.

Question Number : 27 Question Id : 40503611032 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option
Orientation : Vertical

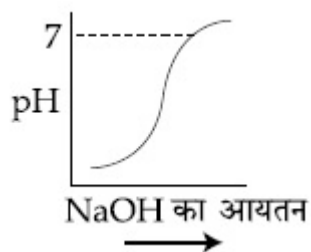
Correct Marks : 4 Wrong Marks : 1

0.1 M HCl के 100 mL को एक बीकर में लिया जाता है तथा इसमें 0.1 M NaOH के 100 mL को 2 mL के पदों में डाला जाता है तथा इसका pH निरन्तर मापा जाता रहा। pH में परिवर्तन के चित्रण के लिए निम्नलिखित आलेखों में से कौन सही है?

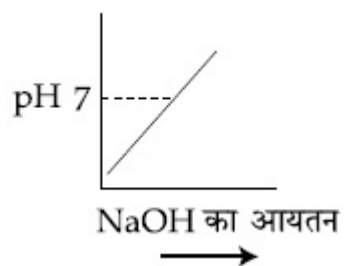
Options :



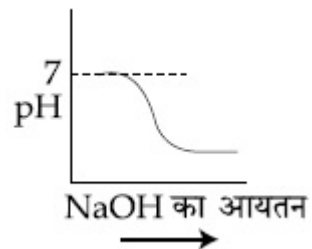
40503640100.



40503640101.



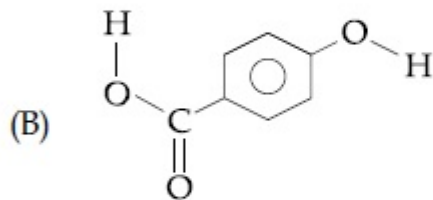
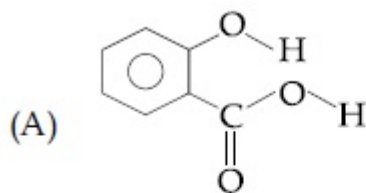
40503640102.



40503640103.

Question Number : 28 Question Id : 40503611033 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option
Orientation : Vertical
Correct Marks : 4 Wrong Marks : 1

Consider the following molecules and statements related to them :



- (a) (B) is more likely to be crystalline than (A)
- (b) (B) has higher boiling point than (A)
- (c) (B) dissolves more readily than (A) in water

Identify the correct option from below :

Options :

40503640104. (a) and (b) are true

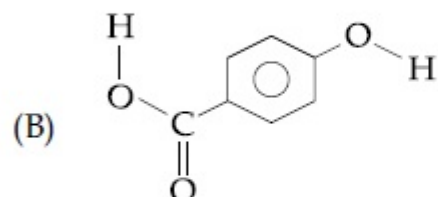
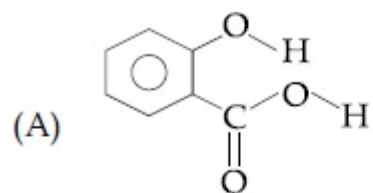
40503640105. only (a) is true

40503640106. (a) and (c) are true

40503640107. (b) and (c) are true

Question Number : 28 Question Id : 40503611033 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option
Orientation : Vertical
Correct Marks : 4 Wrong Marks : 1

निम्न अणुओं एवं उनसे सम्बन्धित कथनों पर विचार कीजिए :



- (a) (A) की तुलना में (B) के क्रिस्टलित होने की ज्यादा सम्भावना है।
- (b) (A) से (B) का क्वथनांक उच्च है।
- (c) (A) की तुलना में (B) जल्दी से पानी में घुल जाता है।

निम्न में से सही विकल्प चुनिये :

Options :

40503640104. (a) तथा (b) सत्य हैं।

40503640105. मात्र (a) सत्य है।

40503640106. (a) तथा (c) सत्य हैं।

40503640107. (b) तथा (c) सत्य हैं।

Question Number : 29 Question Id : 40503611034 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option
Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

For the reaction $2A + 3B + \frac{3}{2}C \rightarrow 3P$,

which statement is correct ?

Options :

40503640108. $\frac{dn_A}{dt} = \frac{3}{2} \frac{dn_B}{dt} = \frac{3}{4} \frac{dn_C}{dt}$

40503640109. $\frac{dn_A}{dt} = \frac{2}{3} \frac{dn_B}{dt} = \frac{3}{4} \frac{dn_C}{dt}$

40503640110. $\frac{dn_A}{dt} = \frac{2}{3} \frac{dn_B}{dt} = \frac{4}{3} \frac{dn_C}{dt}$

40503640111. $\frac{dn_A}{dt} = \frac{dn_B}{dt} = \frac{dn_C}{dt}$

Question Number : 29 Question Id : 40503611034 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

अभिक्रिया $2A + 3B + \frac{3}{2}C \rightarrow 3P$ के लिए कौन

सा कथन सही है?

Options :

40503640108. $\frac{dn_A}{dt} = \frac{3}{2} \frac{dn_B}{dt} = \frac{3}{4} \frac{dn_C}{dt}$

40503640109. $\frac{dn_A}{dt} = \frac{2}{3} \frac{dn_B}{dt} = \frac{3}{4} \frac{dn_C}{dt}$

40503640110. $\frac{dn_A}{dt} = \frac{2}{3} \frac{dn_B}{dt} = \frac{4}{3} \frac{dn_C}{dt}$

40503640111. $\frac{dn_A}{dt} = \frac{dn_B}{dt} = \frac{dn_C}{dt}$

Question Number : 30 Question Id : 40503611035 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Consider the hypothetical situation where the azimuthal quantum number, l , takes values 0, 1, 2, $n + 1$, where n is the principal quantum number. Then, the element with atomic number :

Options :

40503640112. 6 has a 2p-valence subshell
40503640113. 8 is the first noble gas
40503640114. 9 is the first alkali metal
40503640115. 13 has a half-filled valence subshell

Question Number : 30 Question Id : 40503611035 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

परिकल्पित स्थिति में यदि एक दिये गये मुख्य क्वान्टम संख्या ' n ' के लिए दिगंशीय क्वान्टम संख्या ' l ' के मान 0, 1, 2, $n, n + 1$ हों, तो तत्व, परमाणु संख्या

Options :

40503640112. 6 की एक 2p-संयोजकता उपकोशिका है।
40503640113. 8 प्रथम उत्कृष्ट गैस है।
40503640114. 9 प्रथम क्षारीय धातु है।
40503640115. 13 की अर्द्धपूरित संयोजकता उपकोशिका होगी।

Question Number : 31 Question Id : 40503611036 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

A mixture of one mole each of H_2 , He and O_2 each are enclosed in a cylinder of volume V at temperature T . If the partial pressure of H_2 is 2 atm, the total pressure of the gases in the cylinder is :

Options :

40503640116. 22 atm

40503640117. 6 atm

40503640118. 14 atm

40503640119. 38 atm

Question Number : 31 Question Id : 40503611036 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

H_2 , He तथा O_2 प्रत्येक के एक मोल के मिश्रण को ताप T पर आयतन V वाले सिलिन्डर में बन्द किया जाता है। यदि H_2 का आंशिक दाब 2 atm है, तो सिलिन्डर में गैसों का सम्पूर्ण दाब है :

Options :

40503640116. 22 atm

40503640117. 6 atm

40503640118. 14 atm

40503640119. 38 atm

Question Number : 32 Question Id : 40503611037 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The five successive ionization enthalpies of an element are 800, 2427, 3658, 25024 and 32824 kJ mol^{-1} . The number of valence electrons in the element is :

Options :

40503640120. 4

40503640121. 2

40503640122. 3

40503640123. 5

**Question Number : 32 Question Id : 40503611037 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option
Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

एक तत्व की पाँच उत्तरोत्तर आयनन एन्थैल्पियाँ
800, 2427, 3658, 25024 तथा 32824 kJ mol⁻¹
हैं। तत्व में संयोजकता इलेक्ट्रॉनों की संख्या है :

Options :

40503640120. 4

40503640121. 2

40503640122. 3

40503640123. 5

**Question Number : 33 Question Id : 40503611038 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option
Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

The strengths of 5.6 volume hydrogen
peroxide (of density 1 g/mL) in terms of
mass percentage and molarity (M),
respectively, are :

(Take molar mass of hydrogen peroxide
as 34 g/mol)

Options :

40503640124. 1.7 and 0.25

40503640125. 0.85 and 0.5

40503640126. 0.85 and 0.25

40503640127. 1.7 and 0.5

**Question Number : 33 Question Id : 40503611038 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option
Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

5.6 आयतन हाइड्रोजन पराक्साइड (घनत्व 1 g/mL)
की प्रबलता, संहति प्रतिशतता तथा मोलारिटी (M) के
रूप में, क्रमशः हैं :

(हाइड्रोजन पर-आक्साइड का मोलर द्रव्यमान
 34 g/mol लें)

Options :

40503640124. 1.7 तथा 0.25

40503640125. 0.85 तथा 0.5

40503640126. 0.85 तथा 0.25

40503640127. 1.7 तथा 0.5

**Question Number : 34 Question Id : 40503611039 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option
Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

Among the statements (I – IV), the correct ones are :

- (I) Be has smaller atomic radius compared to Mg.
- (II) Be has higher ionization enthalpy than Al.
- (III) Charge/radius ratio of Be is greater than that of Al.
- (IV) Both Be and Al form mainly covalent compounds.

Options :

40503640128. (I), (II) and (III)

40503640129. (I), (II) and (IV)

40503640130. (II), (III) and (IV)

40503640131. (I), (III) and (IV)

Question Number : 34 Question Id : 40503611039 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

कथनों (I – IV) में से सही कथन हैं :

- (I) Mg की तुलना में Be की परमाणु त्रिज्या छोटी है।
- (II) Al की अपेक्षा Be की आयनन एन्थैल्पी अधिक है।
- (III) Al की अपेक्षा Be का आवेश/त्रिज्या अनुपात अधिक है।
- (IV) दोनों Be तथा Al मुख्यतः सहसंयोजक यौगिक बनाते हैं।

Options :

40503640128. (I), (II) तथा (III)

40503640129. (I), (II) तथा (IV)

40503640130. (II), (III) तथा (IV)

40503640131. (I), (III) तथा (IV)

**Question Number : 35 Question Id : 40503611040 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option
Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

The incorrect statement is :

Options :

40503640132. Manganate and permanganate ions are tetrahedral

40503640133. Manganate and permanganate ions are paramagnetic

40503640134. In manganate and permanganate ions, the π -bonding takes place by overlap of p-orbitals of oxygen and d-orbitals of manganese

40503640135. Manganate ion is green in colour and permanganate ion is purple in colour

**Question Number : 35 Question Id : 40503611040 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option
Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

गलत कथन है :

Options :

40503640132. मैंगनेट तथा परमैंगनेट आयन चतुष्फलकीय होते हैं।

40503640133. मैंगनेट तथा परमैंगनेट आयन अनुचुंबकीय होते हैं।

40503640134. मैंगनेट तथा परमैंगनेट आयनों में ऑक्सीजन के p-कक्षकों तथा मैंगनीज के d-कक्षकों के अतिव्यापन के द्वारा π -आबंध बनते हैं।

40503640135. मैंगनेट आयन हरे रंग का है तथा परमैंगनेट आयन नीललोहित रंग का है।

Question Number : 36 Question Id : 40503611041 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option
Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Complex A has a composition of $H_{12}O_6Cl_3Cr$. If the complex on treatment with conc. H_2SO_4 loses 13.5% of its original mass, the correct molecular formula of A is :

[Given : atomic mass of Cr = 52 amu and Cl = 35 amu]

Options :

40503640136. $[Cr(H_2O)_5Cl]Cl_2 \cdot H_2O$

40503640137. $[Cr(H_2O)_4Cl_2]Cl \cdot 2H_2O$

40503640138. $[Cr(H_2O)_3Cl_3] \cdot 3H_2O$

40503640139. $[Cr(H_2O)_6]Cl_3$

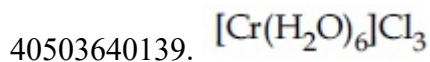
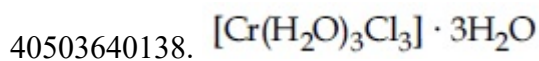
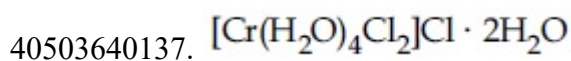
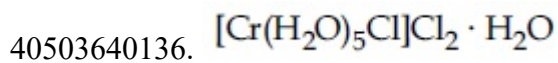
Question Number : 36 Question Id : 40503611041 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option
Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

संकुल A का संघटन $H_{12}O_6Cl_3Cr$ है। यदि संकुल सान्द्र H_2SO_4 के साथ अभिक्रिया कराने पर अपनी मूल संघति का 13.5% खो देता है, तो A का सही आण्विक सूत्र है :

[दिया गया है : परमाणु संघति Cr = 52 amu तथा Cl = 35 amu]

Options :

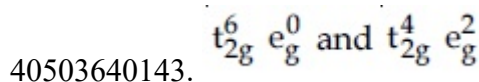
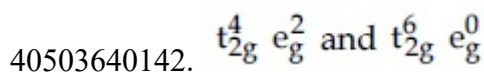
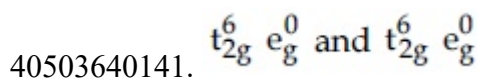
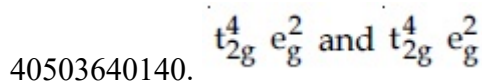


Question Number : 37 Question Id : 40503611042 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option
Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The d-electron configuration of
 $[\text{Ru}(\text{en})_3]\text{Cl}_2$ and $[\text{Fe}(\text{H}_2\text{O})_6]\text{Cl}_2$,
respectively are :

Options :

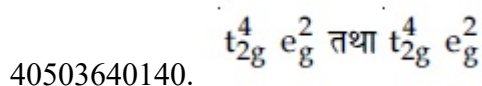


Question Number : 37 Question Id : 40503611042 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option
Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

$[\text{Ru}(\text{en})_3]\text{Cl}_2$ तथा $[\text{Fe}(\text{H}_2\text{O})_6]\text{Cl}_2$ के d-इलेक्ट्रॉन
विन्यास क्रमशः हैं :

Options :



40503640141. $t_{2g}^6 e_g^0$ तथा $t_{2g}^6 e_g^0$

40503640142. $t_{2g}^4 e_g^2$ तथा $t_{2g}^6 e_g^0$

40503640143. $t_{2g}^6 e_g^0$ तथा $t_{2g}^4 e_g^2$

Question Number : 38 Question Id : 40503611043 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The incorrect statement(s) among (a) – (d) regarding acid rain is (are) :

- (a) It can corrode water pipes.
- (b) It can damage structures made up of stone.
- (c) It cannot cause respiratory ailments in animals
- (d) It is not harmful for trees

Options :

40503640144. (a), (b) and (d)

40503640145. (a), (c) and (d)

40503640146. (c) and (d)

40503640147. (c) only

Question Number : 38 Question Id : 40503611043 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

अम्लीय वर्षा के संबंध में कथन (a) – (d) में से गलत कथन है/हैं :

- (a) यह जल के पाइपों को संक्षारित करता है।
- (b) यह पत्थर की बनी संरचनाओं को क्षति पहुँचाता है।
- (c) यह मवेशियों में श्वसन की बीमारी का कारण नहीं हो सकता है।
- (d) यह पेड़ों के लिए हानिकारक नहीं है।

Options :

40503640144. (a), (b) तथा (d)

40503640145. (a), (c) तथा (d)

40503640146. (c) तथा (d)

40503640147. (c) मात्र

Question Number : 39 Question Id : 40503611044 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The increasing order of the reactivity of the following compounds in nucleophilic addition reaction is :

Propanal, Benzaldehyde, Propanone, Butanone

Options :

40503640148. Propanal < Propanone < Butanone < Benzaldehyde

40503640149. Benzaldehyde < Propanal < Propanone < Butanone

40503640150. Benzaldehyde < Butanone < Propanone < Propanal

Butanone < Propanone <
 40503640151. Benzaldehyde < Propanal

Question Number : 39 Question Id : 40503611044 Question Type : MCQ Option Shuffling : Yes
 Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option
 Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित यौगिकों की नाभिकरागी योगज
 अभिक्रियाओं में अभिक्रियाशीलता का बढ़ता क्रम है :
 प्रोपेनल, बेन्जालिडहाइड, प्रोपेनोन, ब्यूटेनोन

Options :

40503640148. प्रोपेनल < प्रोपेनोन < ब्यूटेनोन < बेन्जालिडहाइड

40503640149. बेन्जालिडहाइड < प्रोपेनल < प्रोपेनोन < ब्यूटेनोन

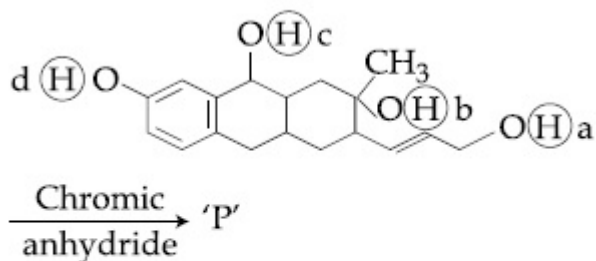
40503640150. बेन्जालिडहाइड < ब्यूटेनोन < प्रोपेनोन < प्रोपेनल

40503640151. ब्यूटेनोन < प्रोपेनोन < बेन्जालिडहाइड < प्रोपेनल

Question Number : 40 Question Id : 40503611045 Question Type : MCQ Option Shuffling : Yes
 Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option
 Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Consider the following reaction :



The product 'P' gives positive ceric ammonium nitrate test. This is because of the presence of which of these -OH group(s) ?

Options :

40503640152. (c) and (d)

40503640153. (b) and (d)

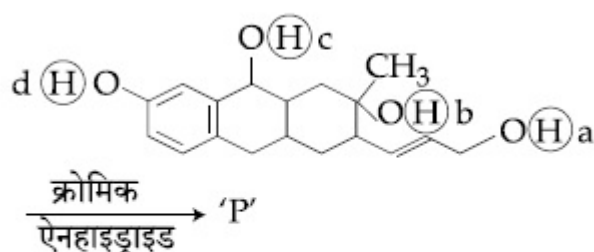
40503640154. (b) only

40503640155. (d) only

Question Number : 40 Question Id : 40503611045 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option
Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित अभिक्रिया पर विचार कीजिए :



उत्पाद 'P' सकारात्मक सेरिक अमोनियम नाइट्रेट परीक्षण देता है। यह इनमें से किस -OH समूह की उपस्थिति के कारण है?

Options :

40503640152. (c) तथा (d)

40503640153. (b) तथा (d)

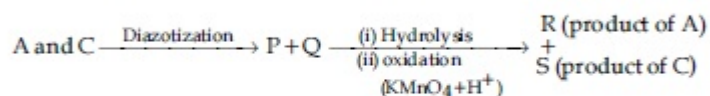
40503640154. (b) मात्र

40503640155. (d) मात्र

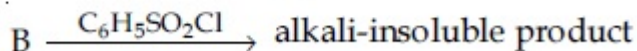
Question Number : 41 Question Id : 40503611046 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option
Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Three isomers A, B and C (mol. formula $C_8H_{11}N$) give the following results :

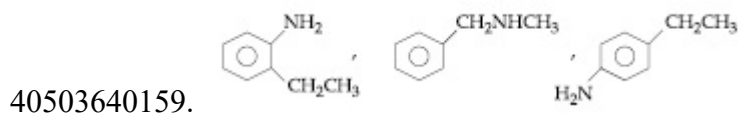
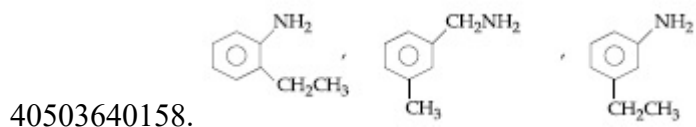
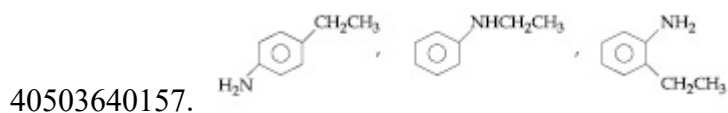
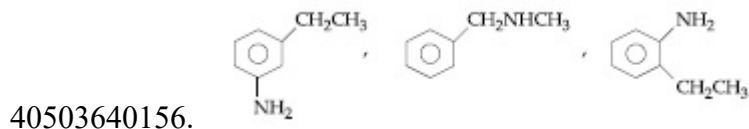


R has lower boiling point than S



A, B and C, respectively are :

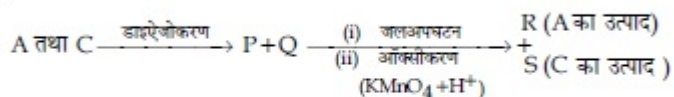
Options :



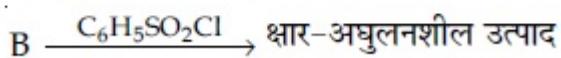
Question Number : 41 Question Id : 40503611046 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option
Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

तीन समावयवी A, B तथा C (अणुसूत्र $C_8H_{11}N$)
निम्नलिखित परिणाम देते हैं :

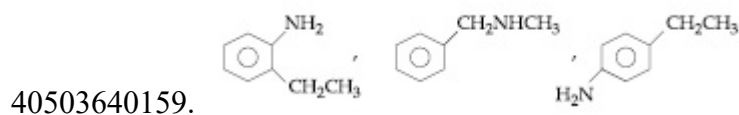
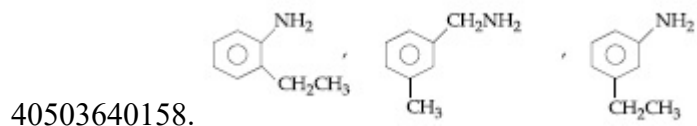
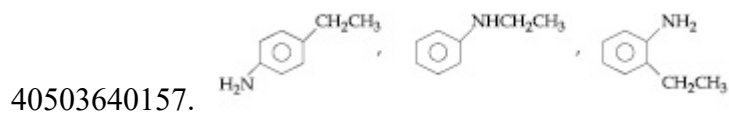
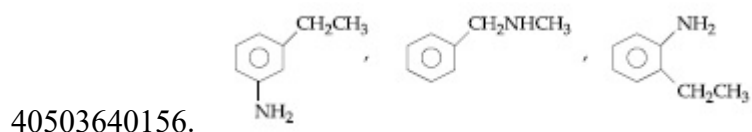


R का क्वथनांक S से कम है।



A, B तथा C क्रमशः हैं :

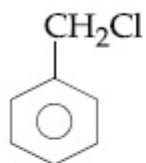
Options :



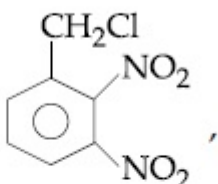
Question Number : 42 Question Id : 40503611047 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

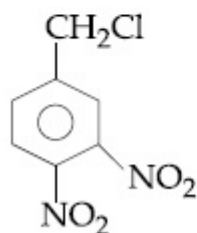
The decreasing order of reactivity of the following compounds towards nucleophilic substitution (S_N2) is :



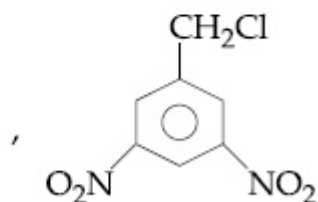
(I)



(II)

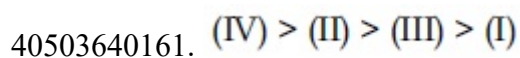
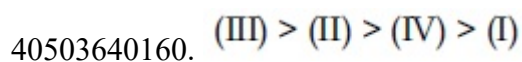


(III)



(IV)

Options :



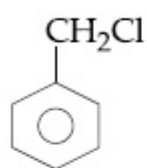
40503640162. (II) > (III) > (I) > (IV)

40503640163. (II) > (III) > (IV) > (I)

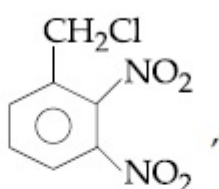
Question Number : 42 Question Id : 40503611047 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option
Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

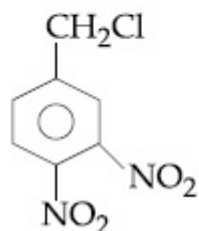
निम्नलिखित यौगिकों की नाभिकरागी प्रतिस्थापन
(S_N2) के प्रति अभिक्रियाशीलता का घटता क्रम है :



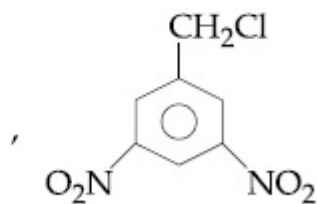
(I)



(II)



(III)



(IV)

Options :

40503640160. (III) > (II) > (IV) > (I)

40503640161. (IV) > (II) > (III) > (I)

40503640162. (II) > (III) > (I) > (IV)

40503640163. (II) > (III) > (IV) > (I)

Question Number : 43 Question Id : 40503611048 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option
Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Match the following drugs with their therapeutic actions :

- | | |
|------------------------------------|--------------------|
| (i) Ranitidine | (a) Antidepressant |
| (ii) Nardil
(Phenelzine) | (b) Antibiotic |
| (iii) Chloramphenicol | (c) Antihistamine |
| (iv) Dimetane
(Brompheniramine) | (d) Antacid |
| | (e) Analgesic |

Options :

40503640164. (i)-(d); (ii)-(c); (iii)-(a); (iv)-(e)

40503640165. (i)-(d); (ii)-(a); (iii)-(b); (iv)-(c)

40503640166. (i)-(e); (ii)-(a); (iii)-(c); (iv)-(d)

40503640167. (i)-(a); (ii)-(c); (iii)-(b); (iv)-(e)

Question Number : 43 Question Id : 40503611048 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित औषधियों को उनके चिकित्सकीय क्रियाओं के साथ सुमेलित कीजिए :

- | | |
|-----------------------------------|--------------------|
| (i) रैनिटिडीन | (a) प्रतिअवसादक |
| (ii) नारडिल (फिनल्लिन) | (b) प्रतिजैविक |
| (iii) क्लोरैम्फेनिकॉल | (c) प्रतिहिस्टैमिन |
| (iv) डाइमेटेन
(ब्रोमफेनिरामिन) | (d) प्रति-अम्ल |
| | (e) पीड़ाहारी |

Options :

40503640164. (i)-(d); (ii)-(c); (iii)-(a); (iv)-(e)

40503640165. (i)-(d); (ii)-(a); (iii)-(b); (iv)-(c)

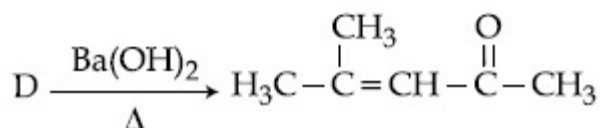
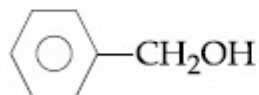
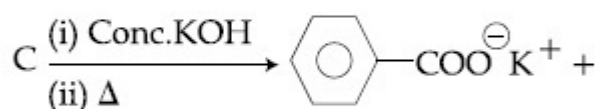
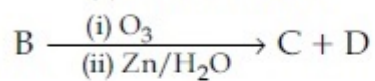
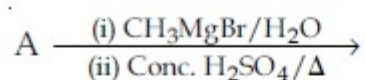
40503640166. (i)-(e); (ii)-(a); (iii)-(c); (iv)-(d)

40503640167. (i)-(a); (ii)-(c); (iii)-(b); (iv)-(e)

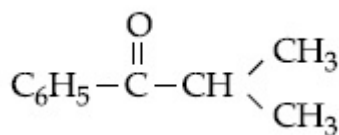
Question Number : 44 Question Id : 40503611049 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option
Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

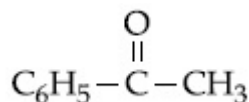
The compound A in the following reactions is :



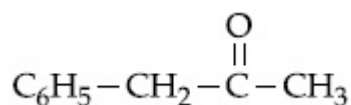
Options :



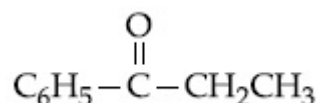
40503640168.



40503640169.



40503640170.

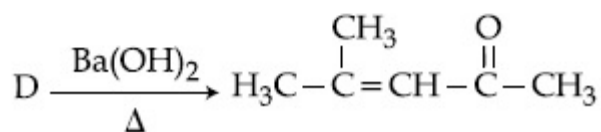
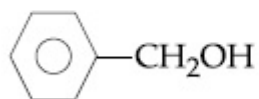
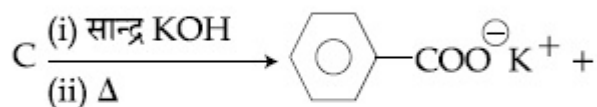
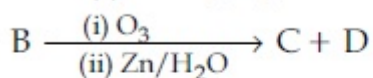
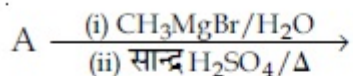


40503640171.

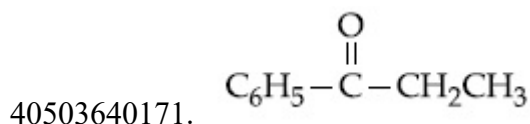
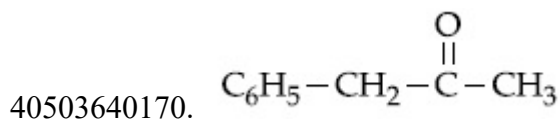
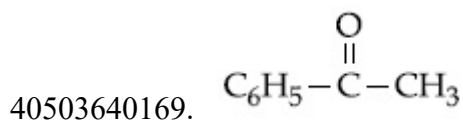
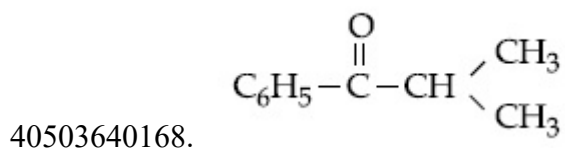
Question Number : 44 Question Id : 40503611049 Question Type : MCQ Option Shuffling : Yes
 Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option
 Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित अभिक्रियाओं में यौगिक A है :



Options :

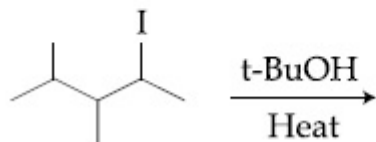


Question Number : 45 Question Id : 40503611050 Question Type : MCQ Option Shuffling : Yes
 Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option

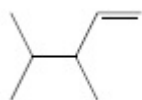
Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

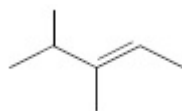
The major product in the following reaction is :



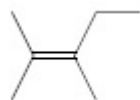
Options :



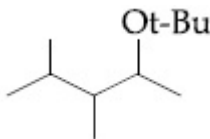
40503640172.



40503640173.



40503640174.



40503640175.

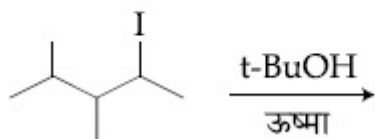
Question Number : 45 Question Id : 40503611050 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option

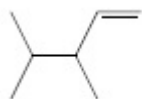
Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

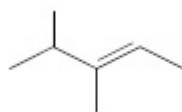
निम्नलिखित अभिक्रियाओं में मुख्य उत्पाद है :



Options :

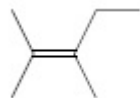


40503640172.

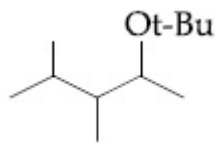


40503640173.

40503640174.



40503640175.



Sub-Section Number :

2

Sub-Section Id :

405036770

Question Shuffling Allowed :

Yes

Question Number : 46 Question Id : 40503611051 Question Type : SA Display Question Number : Yes
Correct Marks : 4 Wrong Marks : 0

6.023×10^{22} molecules are present in 10 g of a substance 'x'. The molarity of a solution containing 5 g of substance 'x' in 2 L solution is _____ $\times 10^{-3}$.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

5 to 5.002

Question Number : 46 Question Id : 40503611051 Question Type : SA Display Question Number : Yes
Correct Marks : 4 Wrong Marks : 0

एक पदार्थ 'x' के 10 g में 6.023×10^{22} अणु उपस्थित हैं। तो उस विलयन की मोलारिटी, जिसके 2 L विलयन में पदार्थ 'x' का 5 g है, होगी _____ $\times 10^{-3}$ ।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

5 to 5.002

Question Number : 47 Question Id : 40503611052 Question Type : SA Display Question Number : Yes
Correct Marks : 4 Wrong Marks : 0

If 250 cm^3 of an aqueous solution containing 0.73 g of a protein A is isotonic with one litre of another aqueous solution containing 1.65 g of a protein B, at 298 K, the ratio of the molecular masses of A and B is _____ $\times 10^{-2}$ (to the nearest integer).

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

5 to 5.002

Question Number : 47 Question Id : 40503611052 Question Type : SA Display Question Number : Yes
Correct Marks : 4 Wrong Marks : 0

यदि प्रोटीन A के एक जलीय विलयन का 250 cm^3 जिसमें A का 0.73 g है, प्रोटीन B के एक जलीय विलयन जिसके 1 लीटर में प्रोटीन का 1.65 g है, 298 K पर समपरासारी हैं A तथा B के आण्विक संहतियों का अनुपात है _____ $\times 10^{-2}$ (निकटतम पूर्णक)।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

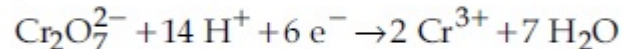
Text Areas : PlainText

Possible Answers :

5 to 5.002

Question Number : 48 Question Id : 40503611053 Question Type : SA Display Question Number : Yes
Correct Marks : 4 Wrong Marks : 0

An acidic solution of dichromate is electrolyzed for 8 minutes using 2A current. As per the following equation



The amount of Cr^{3+} obtained was 0.104 g. The efficiency of the process(in%) is (Take : $F = 96000 \text{ C}$, At. mass of chromium = 52) _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

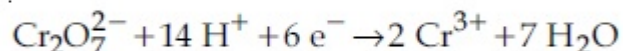
Possible Answers :

5 to 5.002

Question Number : 48 **Question Id :** 40503611053 **Question Type :** SA Display **Question Number :** Yes

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

डाइक्रोमेट के एक अम्लीय विलयन को 2A विद्युतधारा का उपयोग करके 8 मिनट तक वैद्युत अपघटित किया गया। निम्नलिखित समीकरण के आधार पर



बने Cr^{3+} की आकलित मात्रा 0.104 g पायी गई। प्रक्रम की दक्षता (% में) है (मानें : $F = 96000 \text{ C}$, क्रोमियम की परमाणु संहति = 52) _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

5 to 5.002

Question Number : 49 **Question Id :** 40503611054 **Question Type :** SA Display **Question Number :** Yes

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

The volume (in mL) of 0.1 N NaOH required to neutralise 10 mL of 0.1 N phosphinic acid is _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

5 to 5.002

Question Number : 49 Question Id : 40503611054 Question Type : SA Display Question Number : Yes

Correct Marks : 4 Wrong Marks : 0

0.1 N फॉस्फिनिक अम्ल के 10 mL को उदासीन करने के लिए आवश्यक 0.1 N NaOH का आयतन (mL में) है _____।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

5 to 5.002

Question Number : 50 Question Id : 40503611055 Question Type : SA Display Question Number : Yes

Correct Marks : 4 Wrong Marks : 0

The number of >C=O groups present in a tripeptide Asp – Glu – Lys is _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

5 to 5.002

Question Number : 50 Question Id : 40503611055 Question Type : SA Display Question Number : Yes

Correct Marks : 4 Wrong Marks : 0

एक ट्राइपेप्टाइड, Asp – Glu – Lys में उपस्थित

>C=O समूहों की संख्या है _____ ।

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

5 to 5.002