

Chemistry Section A

Section Id :	366694244
Section Number :	5
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	20
Number of Questions to be attempted :	20
Section Marks :	80
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0

Sub-Section Number : 1
Sub-Section Id : 366694244
Question Shuffling Allowed : Yes
Is Section Default? : null

Question Number : 61 Question Id : 3666944235 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Given below are two statements : one is labelled as Assertion A and the other is labelled as Reason R :

Assertion A : In the photoelectric effect, the electrons are ejected from the metal surface as soon as the beam of light of frequency greater than threshold frequency strikes the surface.

Reason R : When the photon of any energy strikes an electron in the atom, transfer of energy from the photon to the electron takes place.

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

Options :

36669413161. Both A and R are correct and R is the correct explanation of A

36669413162. Both A and R are correct but R is NOT the correct explanation of A

36669413163. A is correct but R is not correct

36669413164. A is not correct but R is correct

Question Number : 61 Question Id : 3666944235 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

नीचे दो कथन दिए हैं। एक अभिकथन A है और दूसरा कारण R है।

अभिकथन A

प्रकाश विद्युत् प्रभाव में धातु की सतह पर जब प्रकाशपुंज जिसकी आवृत्ति देहली आवृत्ति से अधिक होती है, जैसे ही टकराता है तो तुरंत इलेक्ट्रॉनों का निष्कासन होता है।

कारण R

जब किसी भी ऊर्जा का फोटॉन परमाणु में एक इलेक्ट्रॉन से टकराता है तो फोटॉन से ऊर्जा इलेक्ट्रॉन को स्थानांतरित होती है।

उपरोक्त कथनों के लिए सर्वाधिक उपयुक्त उत्तर का चुनाव नीचे दिए विकल्पों में से कीजिए।

Options :

36669413161. A तथा R दोनों सही हैं और R सही व्याख्या है A की।

36669413162. A तथा R दोनों सही हैं परन्तु R सही व्याख्या नहीं है A की।

36669413163. A सही है परन्तु R गलत है।

36669413164. A गलत है परन्तु R सही है।

Question Number : 62 Question Id : 3666944236 Question Type : MCQ Option Shuffling : Yes Is

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

Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1



Match List-I with List-II :

List-I Species	List-II Geometry/Shape
A. H_3O^+	I. Tetrahedral
B. Acetylide anion	II. Linear
C. NH_4^+	III. Pyramidal
D. ClO_2^-	IV. Bent

Choose the correct answer from the options given below:

Options :

36669413165. A-III, B-II, C-I, D-IV

36669413166. A-III, B-I, C-II, D-IV

36669413167. A-III, B-IV, C-I, D-II

36669413168. A-III, B-IV, C-II, D-I

Question Number : 62 Question Id : 3666944236 Question Type : MCQ Option Shuffling : Yes Is

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

Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

सूची I का मिलान सूची II से कीजिए :

सूची-I स्पीशीज	सूची-II जिओमेट्री/आकार
A. H_3O^+	I. चतुष्फलकीय
B. ऐसीटिलाइड ऋणायन	II. रेखीय
C. NH_4^+	III. पिरैमिडी
D. ClO_2^-	IV. मुड़ी हुई

नीचे दिये विकल्पों में से सही उत्तर चुनिए:

Options :

36669413165. A-III B-II C-I D-IV

36669413166. A-III, B-I, C-II, D-IV

36669413167. A-III, B-IV, C-I, D-II

36669413168. A-III, B-IV, C-II, D-I

Question Number : 63 Question Id : 3666944237 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

25 mL of silver nitrate solution (1M) is added dropwise to 25 mL of potassium iodide (1.05 M) solution. The ion(s) present in very small quantity in the solution is/are

Options :

36669413169. I^- only

36669413170. Ag^+ and I^- both

36669413171. K^+ only

36669413172. NO_3^- only

Question Number : 63 Question Id : 3666944237 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

सिल्वर नाइट्रेट (1M) के 25 mL विलयन को बूँद-बूँद कर पोटैशियम आयोडाइड (1.05M) के 25 mL विलयन में मिलाया गया है। विलयन में अति सूक्ष्म मात्रा में जो आयन उपस्थित है वह है

36669413169. I^- केवल

36669413170. Ag^+ तथा I^- दोनों

36669413171. K^+ केवल

36669413172. NO_3^- केवल

Question Number : 64 Question Id : 3666944238 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

For elements B, C, N, Li, Be, O and F, the correct order of first ionization enthalpy is

Options :

36669413173. $Li < Be < B < C < N < O < F$

36669413174. $Li < B < Be < C < O < N < F$

36669413175. $B > Li > Be > C > N > O > F$

36669413176. $Li < Be < B < C < O < N < F$

Question Number : 64 Question Id : 3666944238 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

तत्वों B, C, N, Li, Be, O तथा F के लिए प्रथम आयनन एन्थैल्पी का सही क्रम है

Options :

36669413174. $\text{Li} < \text{B} < \text{Be} < \text{C} < \text{O} < \text{N} < \text{F}$

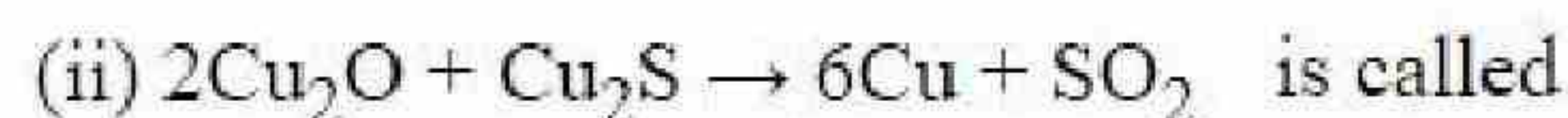
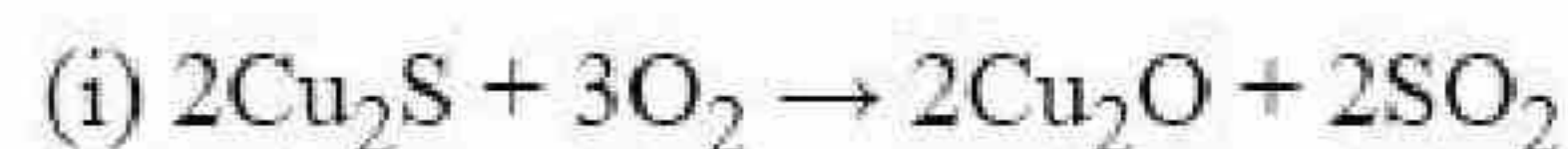
36669413175. $\text{B} > \text{Li} > \text{Be} > \text{C} > \text{N} > \text{O} > \text{F}$

36669413176. $\text{Li} < \text{Be} < \text{B} < \text{C} < \text{O} < \text{N} < \text{F}$

Question Number : 65 Question Id : 3666944239 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

In the extraction process of copper, the product obtained after carrying out the reactions



Options :

36669413177. Copper matte

36669413178. Copper scrap

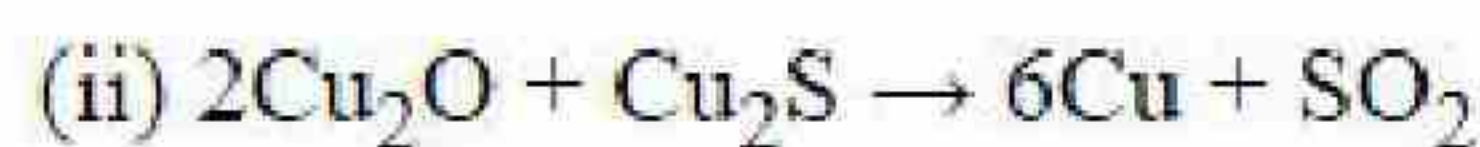
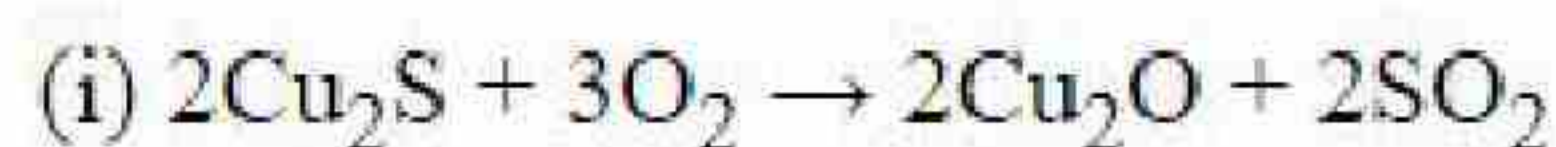
36669413179. Blister copper

36669413180. Reduced copper

Question Number : 65 Question Id : 3666944239 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

कॉपर के निष्कर्षण प्रक्रम में, निम्नलिखित अभिक्रियायें करने के पश्चात उत्पन्न उत्पाद को कहते हैं



Options :

36669413177. कॉपर मेट

36669413178. कॉपर स्क्रेप

36669413179. ब्लिस्टर कॉपर

36669413180. अपचयित कॉपर

Question Number : 66 Question Id : 3666944240 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Given below are two statements:

Statement-I : Methane and steam passed over a heated Ni catalyst produces hydrogen gas.

Statement-II : Sodium nitrite reacts with NH_4Cl to give H_2O , N_2 and NaCl .

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

Options :

36669413181. Both the statements I and II are correct

36669413182. Both the statements I and II are incorrect

36669413183. Statement I is correct but Statement II is incorrect

Question Number : 66 Question Id : 3666944240 Question Type : MCQ Option Shuffling : Yes Is

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

Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

नीचे दो कथन दिए गए हैं

कथन I : मेथेन तथा जलवाष्प को गर्म Ni उत्प्रेरक पर प्रवाहित करने पर हाइड्रोजन गैस उत्पन्न होती है

कथन II : सोडियम नाइट्रेट से NH_4Cl की अभिक्रिया देती है H_2O , N_2 तथा NaCl .

Options :

36669413181. कथन I तथा कथन II दोनों सही हैं

36669413182. कथन I तथा कथन II दोनों गलत हैं

36669413183. कथन I सही है परन्तु कथन II गलत हैं

36669413184. कथन I गलत है परन्तु कथन II सही हैं

Question Number : 67 Question Id : 3666944241 Question Type : MCQ Option Shuffling : Yes Is

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

Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Match List-I with List-II:

List-I	List-II
A. K	I. Thermonuclear reactions
B. KCl	II. Fertilizer
C. KOH	III. Sodium potassium pump
D. Li	IV. Absorbent of CO ₂

Choose the correct answer from the options given below :

Options :

36669413185. A-IV, B-I, C-III, D-II

36669413186. A-IV, B-III, C-I, D-II

36669413187. A-III, B-IV, C-II, D-I

36669413188. A-III, B-II, C-IV, D-I

Question Number : 67 Question Id : 3666944241 Question Type : MCQ Option Shuffling : Yes Is

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

Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

सूची I का सूची II से मिलान कीजिए :

सूची -I	सूची-II
A. K	I. तापनाभिकीय अभिक्रिया
B. KCl	II. उर्वरक
C. KOH	III. सोडियम पोटैशियम पंप
D. Li	IV. CO ₂ का अवशोषक

नीचे दिये गये विकल्पों में से सही उत्तर चुनिए:

Options :

36669413185. A-IV, B-I, C-III, D-II

36669413187. A-III, B-IV, C-II, D-I

36669413188. A-III, B-II, C-IV, D-I

Question Number : 68 Question Id : 3666944242 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

For compound having the formula GaAlCl_4 , the correct option from the following is

Options :

36669413189. Oxidation state of Ga in the salt GaAlCl_4 is +3.

36669413190. Ga is coordinated with Cl in GaAlCl_4

36669413191. Ga is more electronegative than Al and is present as a cationic part of the salt GaAlCl_4

36669413192. Cl forms bond with both Al and Ga in GaAlCl_4

Question Number : 68 Question Id : 3666944242 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

GaAlCl_4 सूत्र के यौगिक के लिए निम्नलिखित में से सही विकल्प है

Options :

36669413189. साल्ट GaAlCl_4 में Ga की आक्सीकरण अवस्था +3 है।

36669413190. GaAlCl_4 में Ga उपसहसंयोजित है Cl से ।

36669413191. Al की अपेक्षा Ga अधिक विद्युत् ऋणात्मक है और साल्ट GaAlCl_4 में धनायनिक घटक के रूप में उपस्थित है।

36669413192. GaAlCl_4 में Cl, Al तथा Ga दोनों से आबन्ध बनाती है।

Question Number : 69 Question Id : 3666944243 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Which of the following complex has a possibility to exist as meridional isomer?

Options :

36669413193. $[\text{Co}(\text{NH}_3)_3(\text{NO}_2)_3]$

36669413194. $[\text{Co}(\text{en})_3]$

36669413195. $[\text{Co}(\text{en})_2\text{Cl}_2]$

36669413196. $[\text{Pt}(\text{NH}_3)_2\text{Cl}_2]$

Question Number : 69 Question Id : 3666944243 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्न में से किस संकुल में रेखांशिक समावयव (Meridional isomer) के रूप में पाए जाने की संभावना है ?

Options :

36669413193. $[\text{Co}(\text{NH}_3)_3(\text{NO}_2)_3]$

36669413194. $[\text{Co}(\text{en})_3]$

36669413195. $[\text{Co}(\text{en})_2\text{Cl}_2]$

36669413196. $[\text{Pt}(\text{NH}_3)_2(\text{Cl})_2]$

Question Number : 70 Question Id : 3666944244 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

The set which does not have ambidentate ligand(s) is

Options :

36669413197. EDTA^{4-} , NCS^- , $\text{C}_2\text{O}_4^{2-}$

36669413198. NO_2^- , $\text{C}_2\text{O}_4^{2-}$, EDTA^{4-}

36669413199. $\text{C}_2\text{O}_4^{2-}$, ethylene diammine, H_2O

36669413200. $\text{C}_2\text{O}_4^{2-}$, NO_2^- , NCS^-

Question Number : 70 Question Id : 3666944244 Question Type : MCQ Option Shuffling : Yes Is



Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

सेट जिसमे उभयदन्ती लिगन्ड नहीं है, वह है

Options :

36669413197. EDTA^{4-} , NCS^- , $\text{C}_2\text{O}_4^{2-}$

36669413198. NO_2^- , $\text{C}_2\text{O}_4^{2-}$, EDTA^{4-}

36669413199. $\text{C}_2\text{O}_4^{2-}$, एथिलिन डाइऐमीन, H_2O

36669413200. $\text{C}_2\text{O}_4^{2-}$, NO_2^- , NCS^-

Question Number : 71 Question Id : 3666944245 Question Type : MCQ Option Shuffling : Yes Is

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

Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Given below are two statements:

Statement I: If BOD is 4 ppm and dissolved oxygen is 8 ppm, then it is a good quality water.

Statement II: If the concentration of zinc and nitrate salts are 5 ppm each, then it can be a good quality water.

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

Options :

36669413201. Both the statements I and II are correct

36669413202. Both the statements I and II are incorrect

36669413203. Statement I is correct but Statement II is incorrect

36669413204. Statement I is incorrect but Statement II is correct

Question Number : 71 Question Id : 3666944245 Question Type : MCQ Option Shuffling : Yes Is

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

Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

नीचे दो कथन दिए हैं

कथन I : यदि जल की BOD 4 ppm और घुलित ऑक्सीजन 8 ppm है तो जल की गुणवत्ता अच्छी है।

कथन II : यदि जिंक तथा नाइट्रेट साल्टों में से प्रत्येक की सान्द्रता 5 ppm है तो जल की गुणवत्ता अच्छी हो सकती है।

उपरोक्त कथनों के लिए नीचे दिए विकल्पों में से सर्वाधिक उचित उत्तर दीजिए

Options :

36669413201. कथन I तथा कथन II दोनों सही है।

36669413202. कथन I तथा कथन II दोनों गलत है।

36669413203. कथन I सही है तथा कथन II गलत है।

36669413204. कथन I गलत है तथा कथन II सही है।

Question Number : 72 Question Id : 3666944246 Question Type : MCQ Option Shuffling : Yes Is

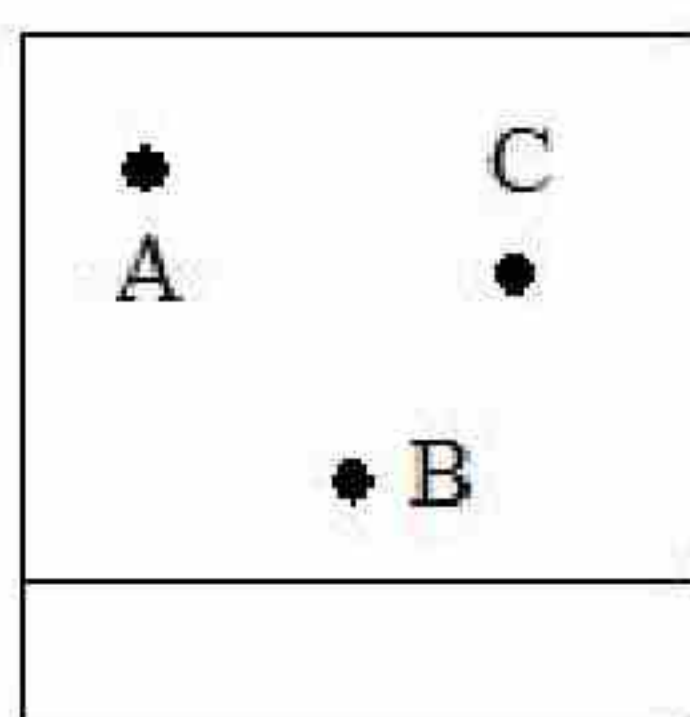
Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum

Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1



Thin layer chromatography of a mixture shows the following observation:



The correct order of elution in the silica gel column chromatography is

Options :

36669413205. B, C, A

36669413206. A, C, B

36669413207. C, A, B

36669413208. B, A, C

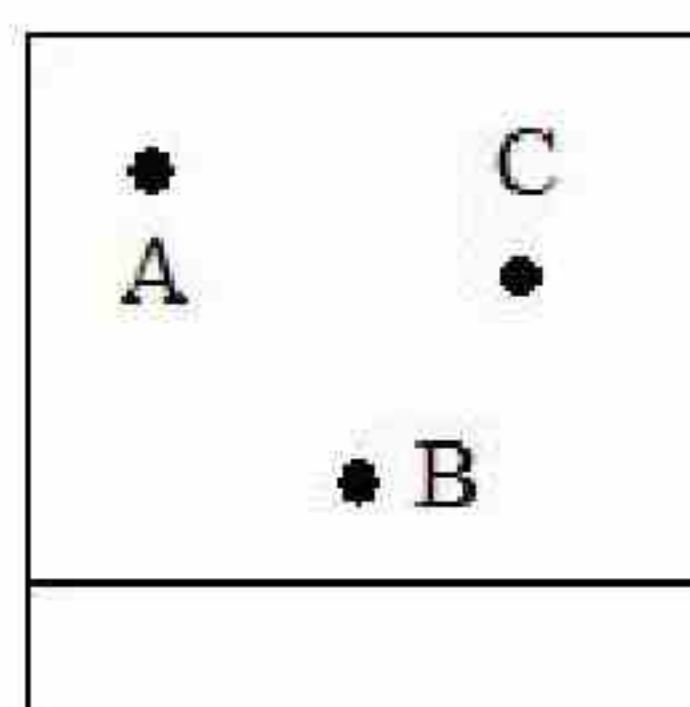
Question Number : 72 Question Id : 3666944246 Question Type : MCQ Option Shuffling : Yes Is

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

Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

एक मिश्रण की पतली परत क्रोमेटोग्राफी निम्नलिखित प्रेक्षण दर्शाती है :



सिलिका जेल कॉलम क्रोमेटोग्राफी में निक्षालन का सही क्रम है

Options :

36669413205. B, C, A

36669413206. A, C, B

36669413207. C, A, B

36669413208. B, A, C

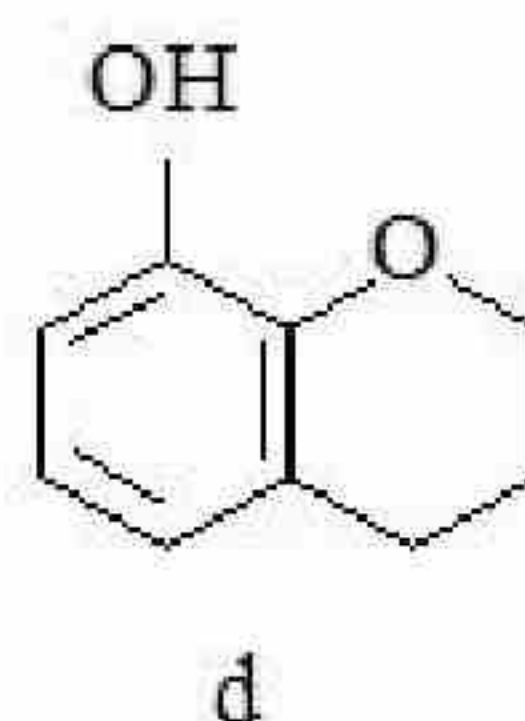
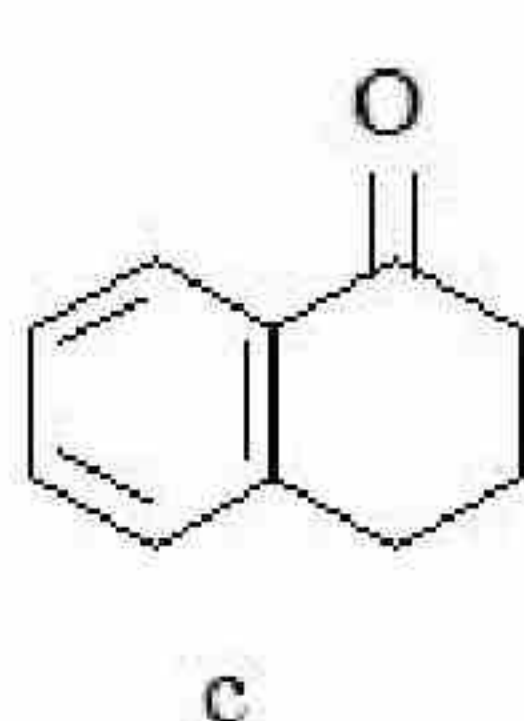
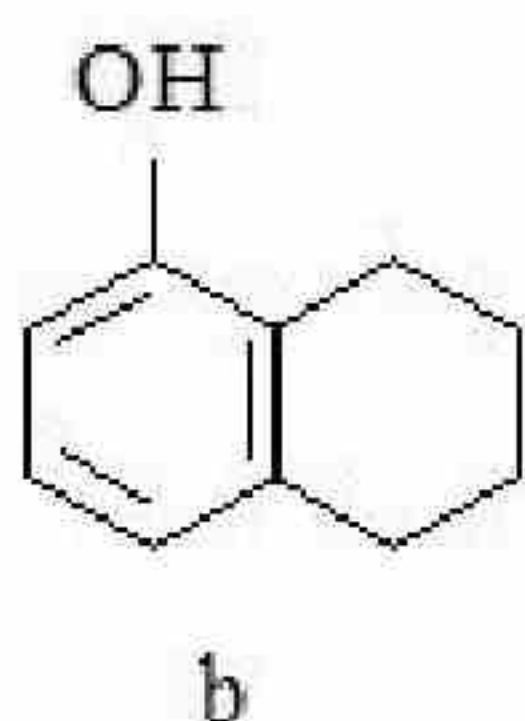
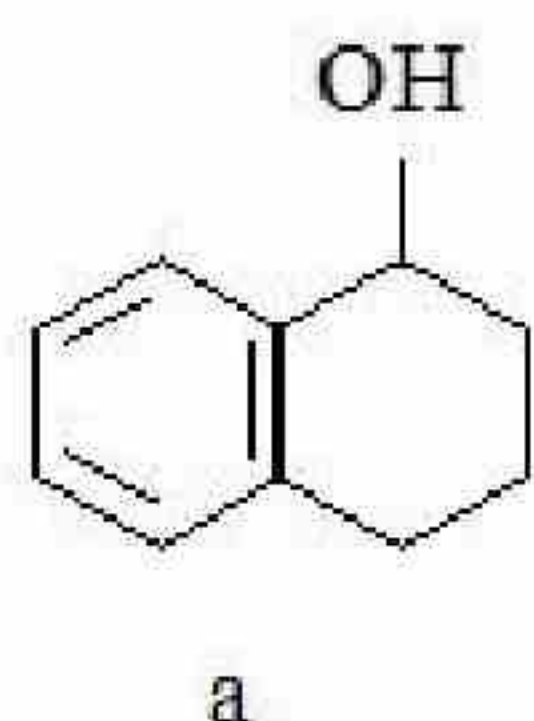
Question Number : 73 Question Id : 3666944247 Question Type : MCQ Option Shuffling : Yes Is

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

Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Arrange the following compounds in increasing order of rate of aromatic electrophilic substitution reaction



Options :

36669413209. c, a, b, d

36669413210. b, c, a, d

36669413211. d, b, c, a

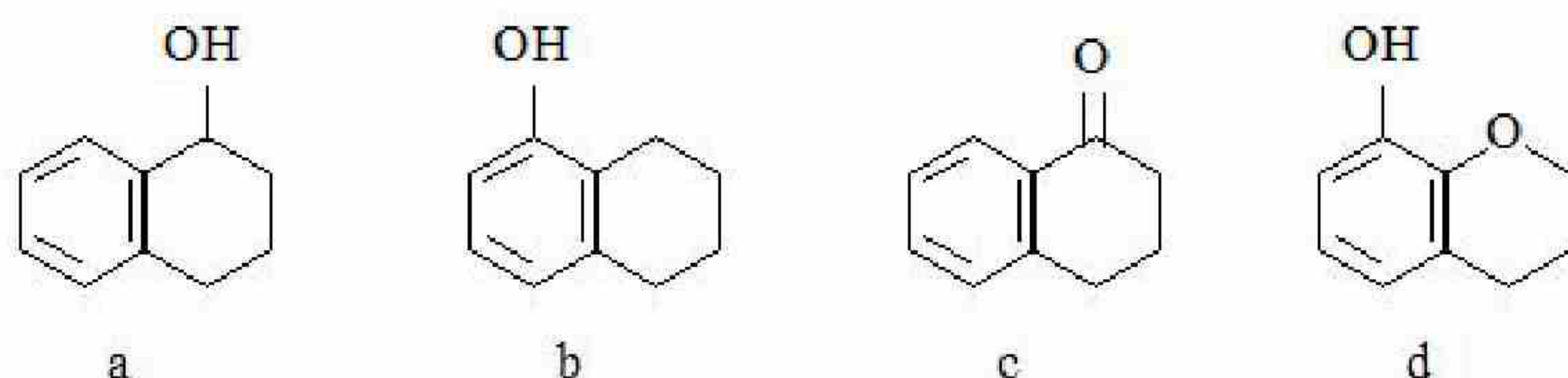
36669413212. d, b, a, c

Question Number : 73 Question Id : 3666944247 Question Type : MCQ Option Shuffling : Yes Is

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

Instruction Time : 0

ऐरोमैटिक इलेक्ट्रॉन स्रेही प्रतिस्थापन अभिक्रिया दर के बढ़ते क्रम में निम्नलिखित यौगिकों को व्यवस्थित कीजिए



Options :

36669413209. c, a, b, d

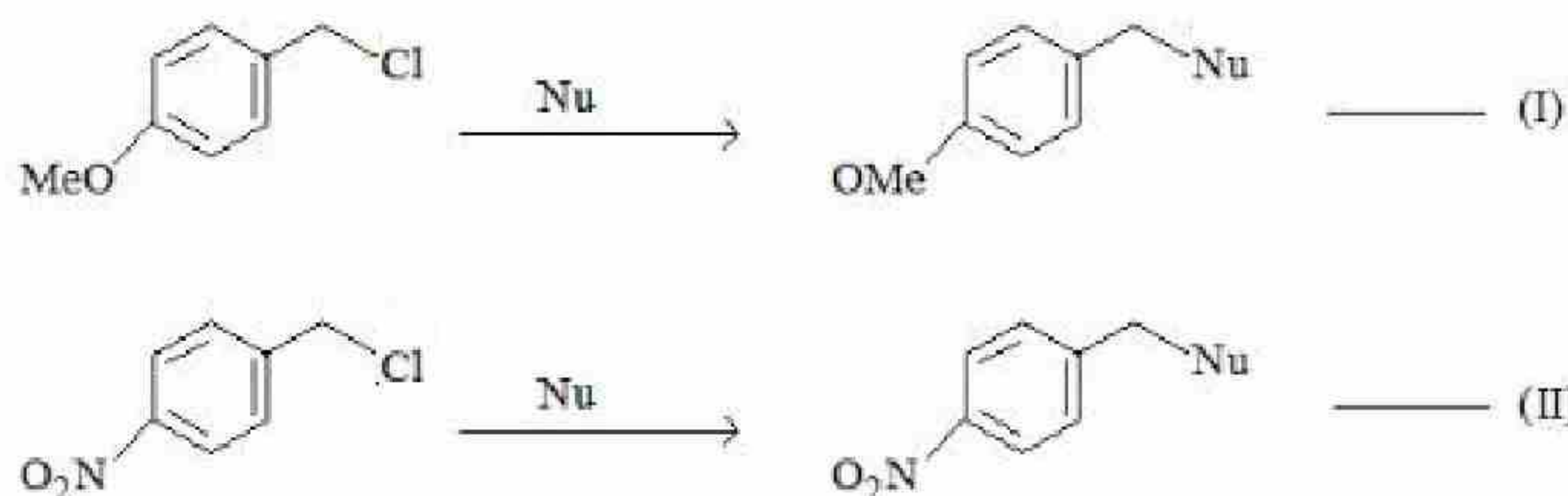
36669413210. b, c, a, d

36669413211. d, b, c, a

36669413212. d, b, a, c

Question Number : 74 Question Id : 3666944248 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1



Where Nu = Nucleophile

Find out the correct statement from the options given below for the above 2 reactions.

Options :

36669413213. Reaction (I) is of 1st order and reaction (II) is of 2nd order

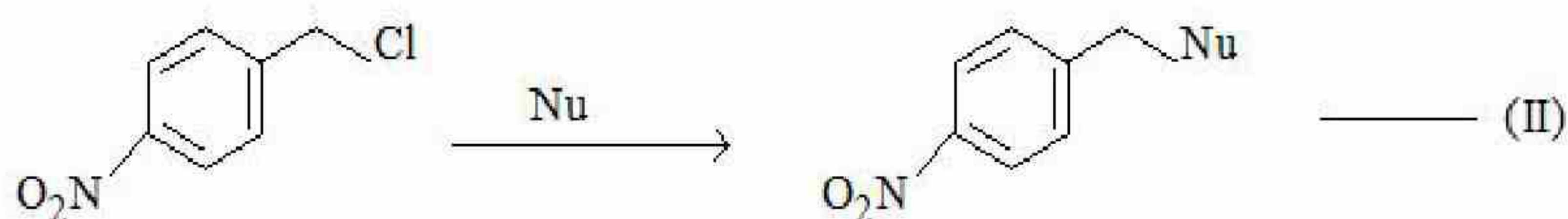
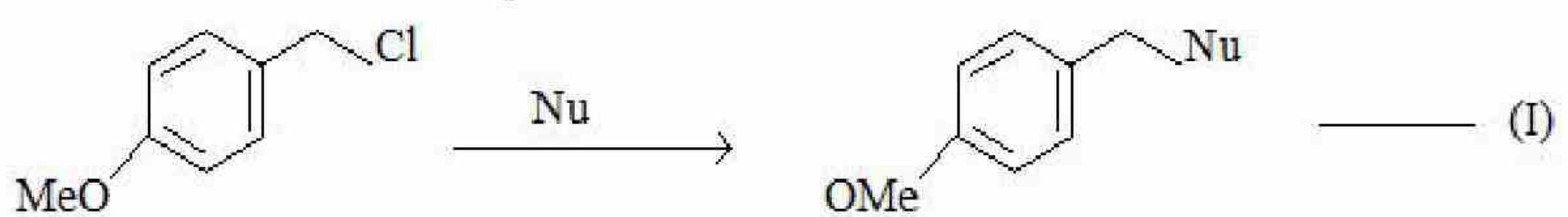
36669413214. Reactions (I) and (II) both are of 1st order

36669413215. Reactions (I) and (II) both are of 2nd order

36669413216. Reaction (I) is of 2nd order and reaction (II) is of 1st order

Question Number : 74 Question Id : 3666944248 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1



यहाँ Nu = नाभिकस्नेही

उपरोक्त 2 अभिक्रियाओं के लिए नीचे दिए विकल्पों में से सही कथन चुनिए .

Options :

36669413213. अभिक्रिया (I) प्रथम कोटि की है और अभिक्रिया (II) द्वितीय कोटि की है

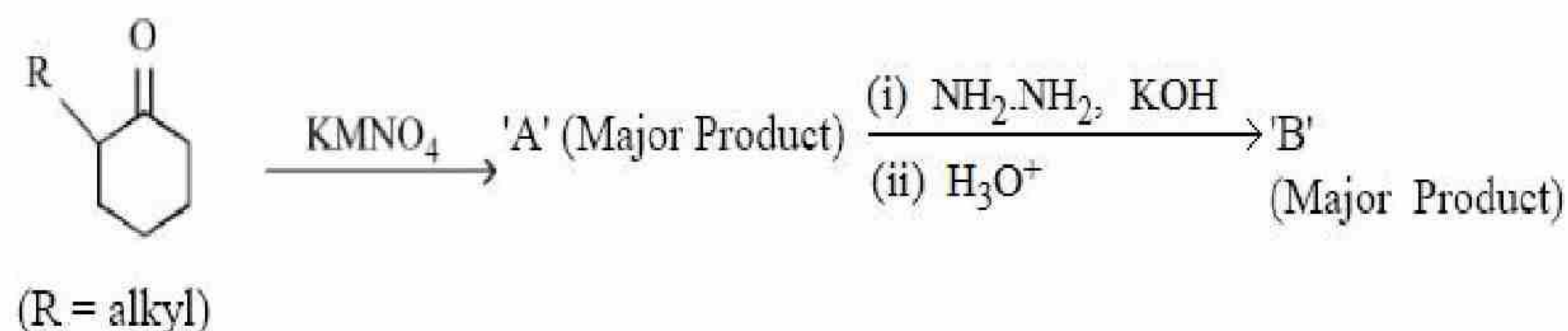
36669413214. अभिक्रिया (I) तथा अभिक्रिया (II) दोनों ही प्रथम कोटि की है

36669413215. अभिक्रिया (I) तथा अभिक्रिया (II) दोनों ही द्वितीय कोटि की है

36669413216. अभिक्रिया (I) द्वितीय कोटि की है और अभिक्रिया (II) प्रथम कोटि की है

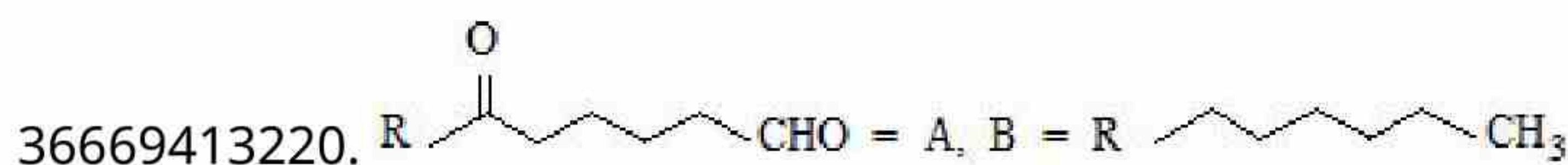
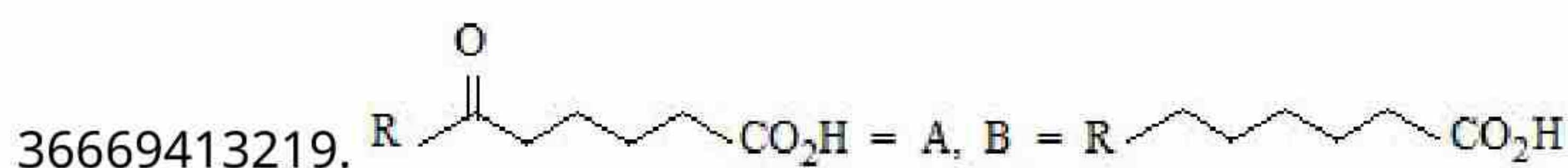
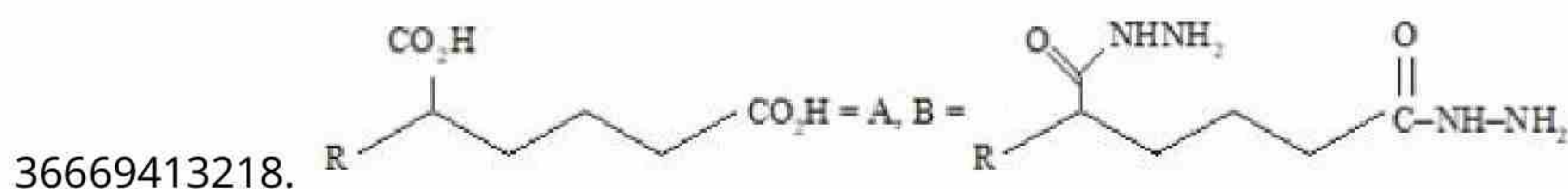
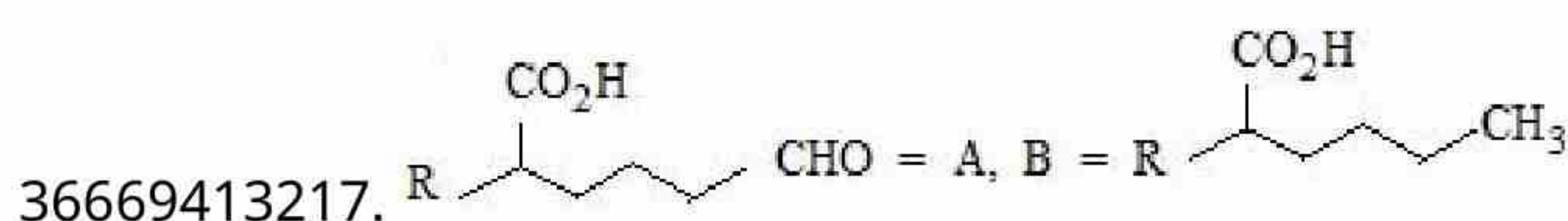
Question Number : 75 Question Id : 3666944249 Question Type : MCQ Option Shuffling : Yes Is
 Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum
 Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1



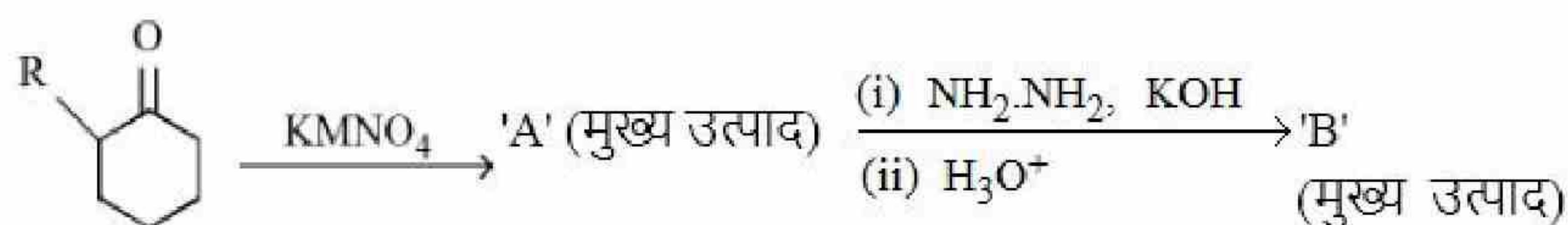
'A' and 'B' in the above reactions are:

Options :



Question Number : 75 Question Id : 3666944249 Question Type : MCQ Option Shuffling : Yes Is
 Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum
 Instruction Time : 0

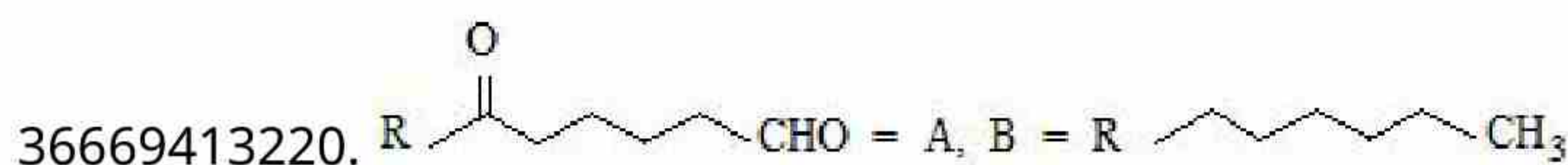
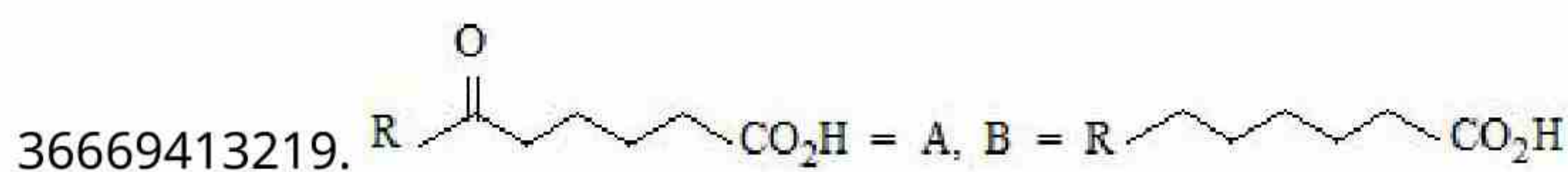
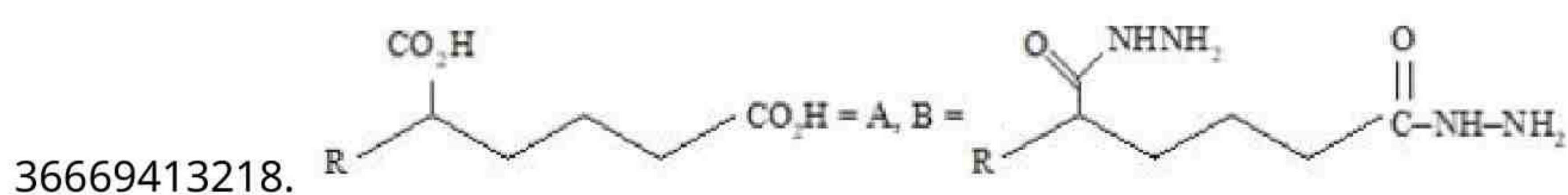
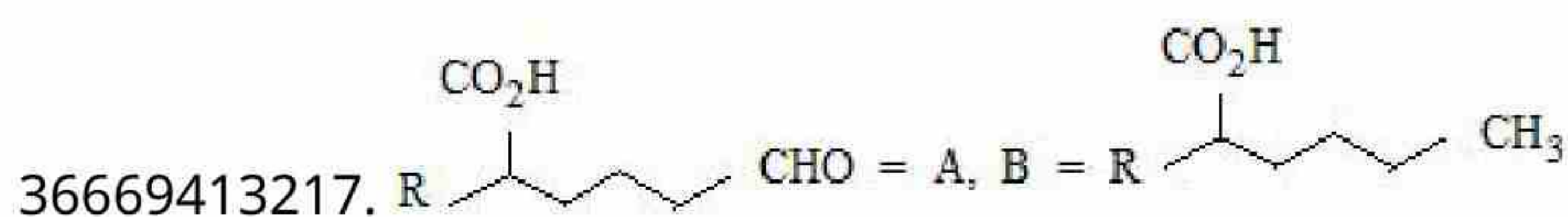
Correct Marks : 4 Wrong Marks : 1



उपरोक्त अभिक्रिया में मुख्य उत्पाद A तथा B है

(R = ऐल्किल)

Options :



Question Number : 76 Question Id : 3666944250 Question Type : MCQ Option Shuffling : Yes Is

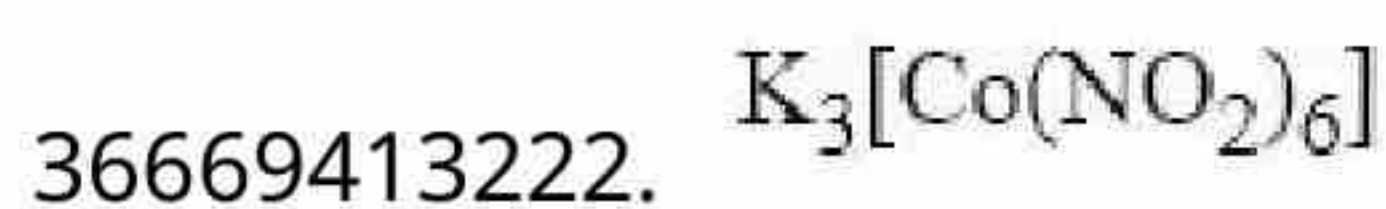
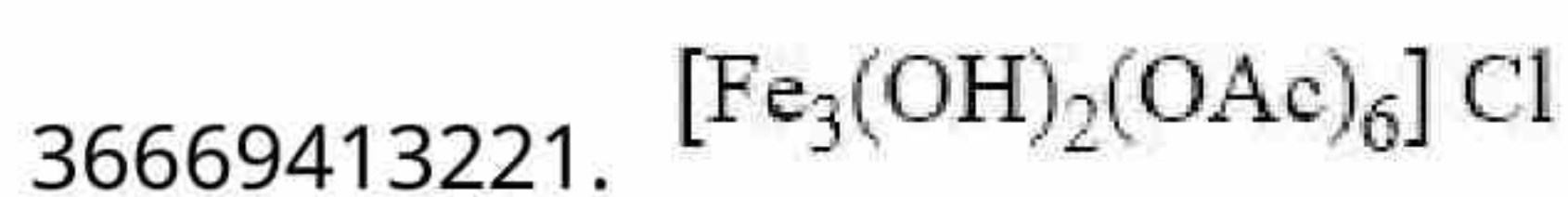
Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum

Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

The complex that dissolves in water is

Options :



36669413223. $\text{Fe}_4[\text{Fe}(\text{CN})_6]_3$

36669413224. $(\text{NH}_4)_3[\text{As}(\text{Mo}_3\text{O}_{10})_4]$

Question Number : 76 Question Id : 3666944250 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

वह संकुल जो जल में घुलता है, है।

Options :

36669413221. $[\text{Fe}_3(\text{OH})_2(\text{OAc})_6] \text{Cl}$

36669413222. $\text{K}_3[\text{Co}(\text{NO}_2)_6]$

36669413223. $\text{Fe}_4[\text{Fe}(\text{CN})_6]_3$

36669413224. $(\text{NH}_4)_3[\text{As}(\text{Mo}_3\text{O}_{10})_4]$

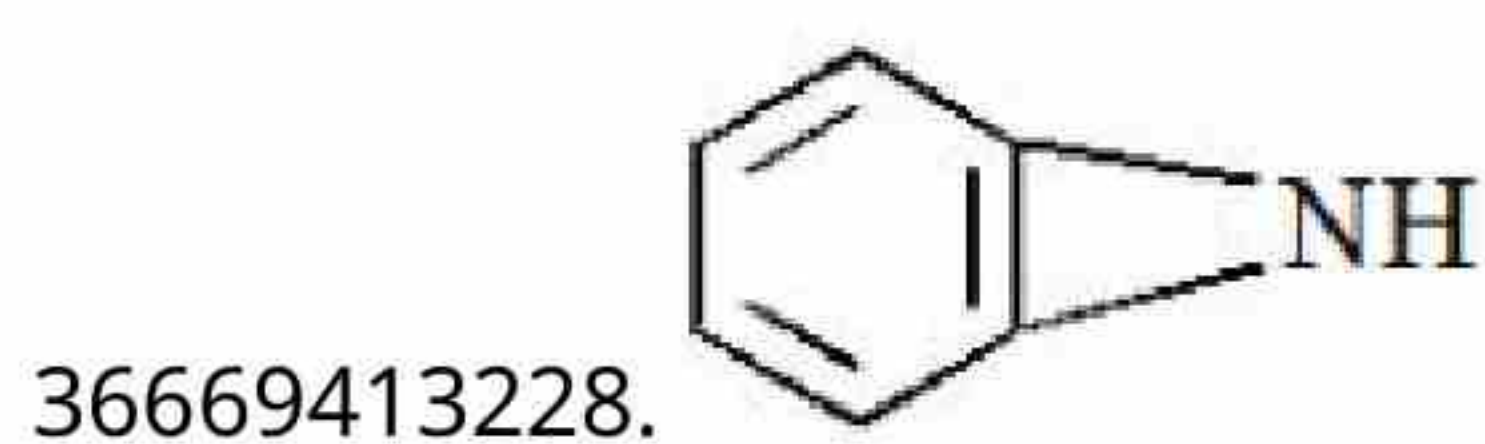
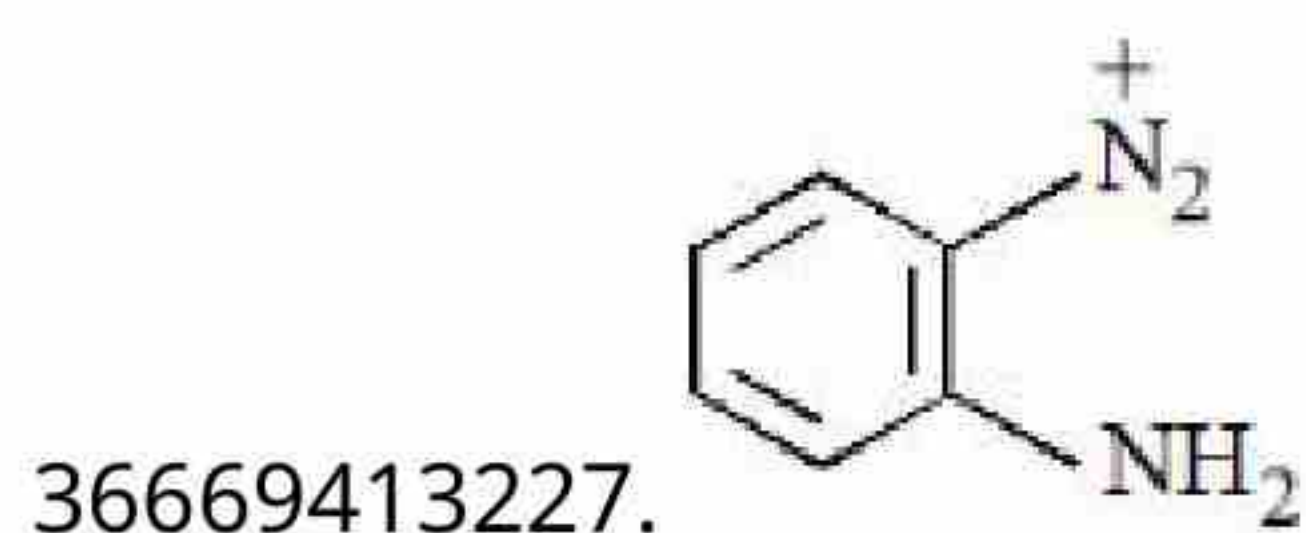
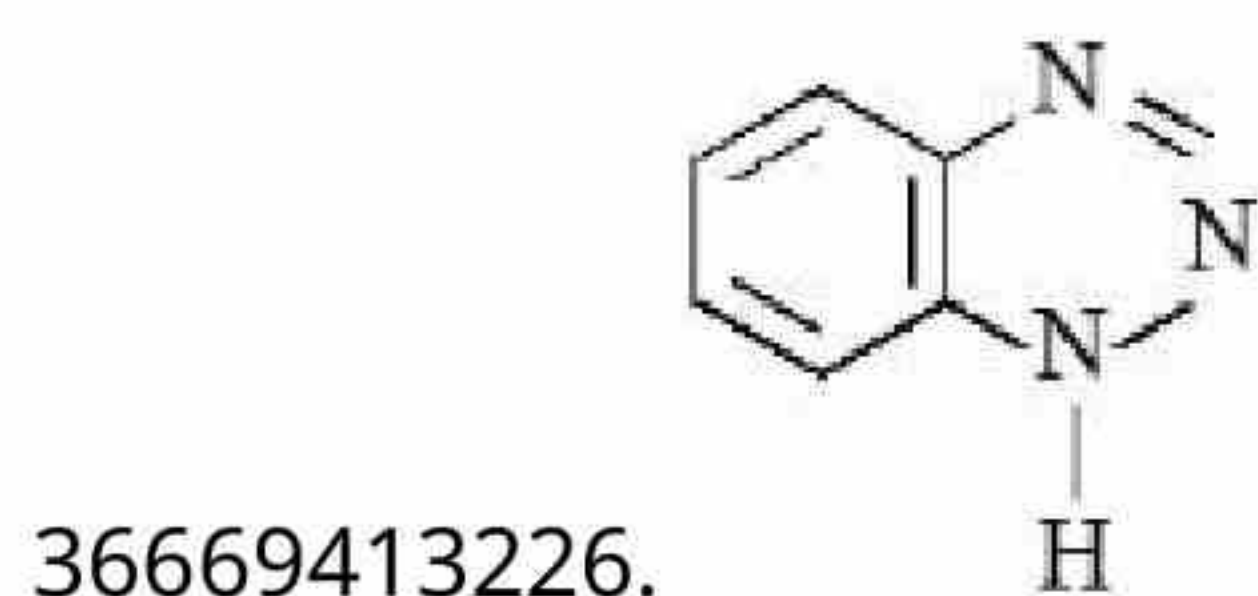
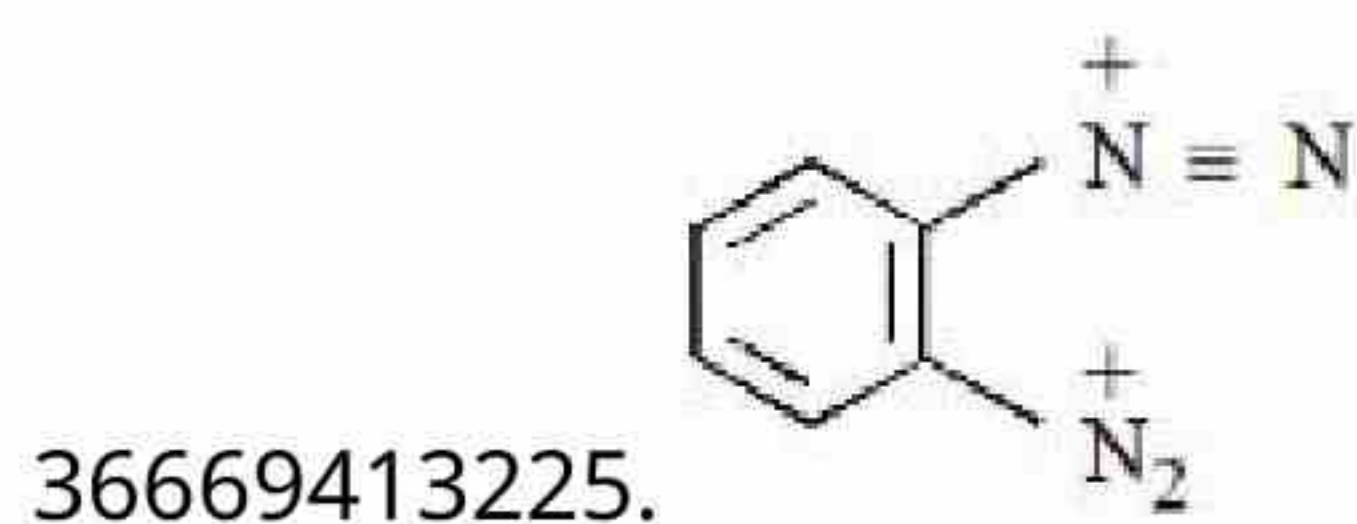
Question Number : 77 Question Id : 3666944251 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

$\text{o-Phenylenediamine} \xrightarrow{\text{HNO}_2} \text{'X'}$
Major Product

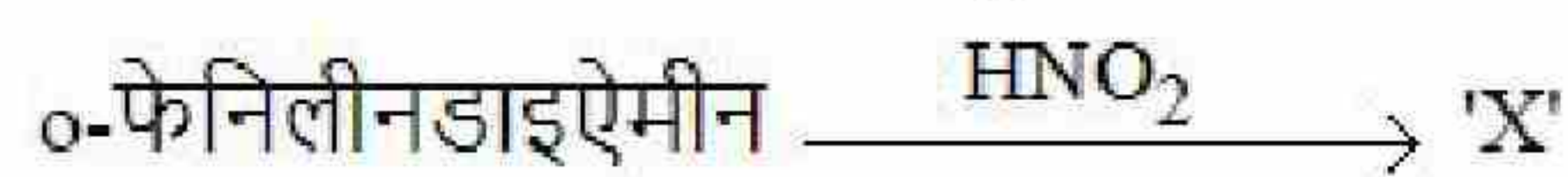
'X' is

Options :



Question Number : 77 Question Id : 3666944251 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

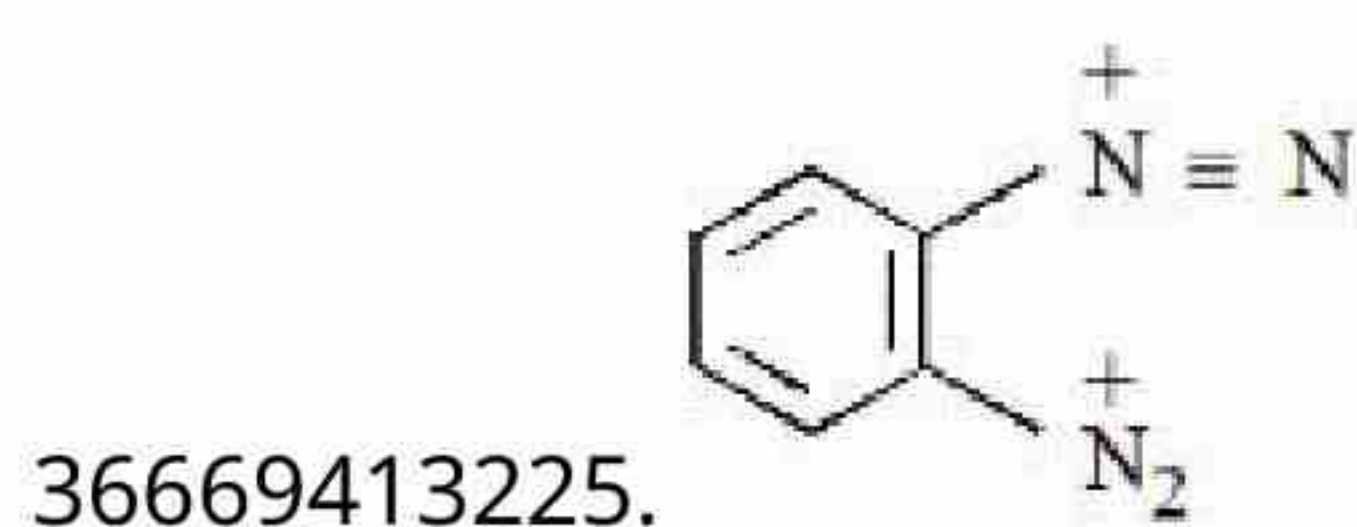
Correct Marks : 4 Wrong Marks : 1

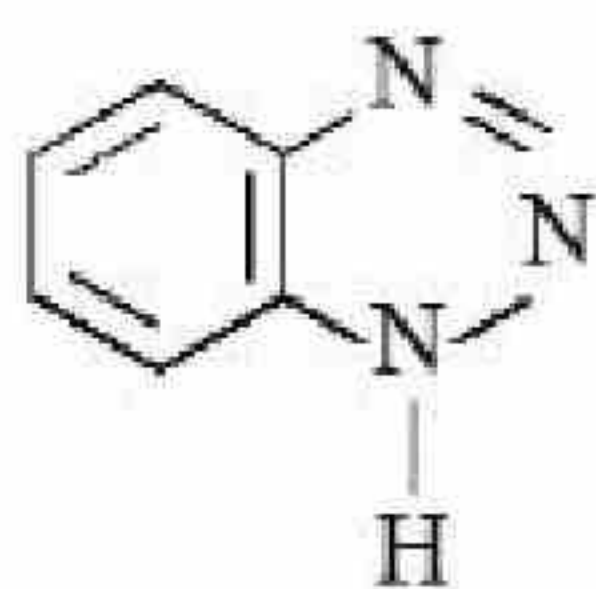


मुख्य उत्पाद

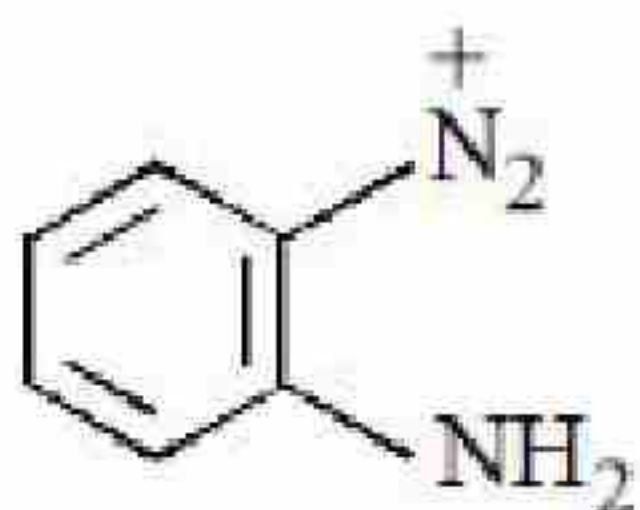
उपरोक्त अभिक्रिया में X है

Options :

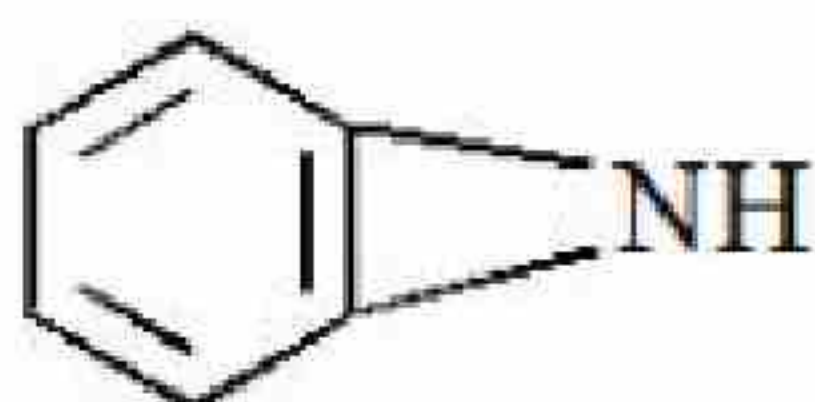




36669413227.



36669413228.



Question Number : 78 Question Id : 3666944252 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

The polymer X - consists of linear molecules and is closely packed. It is prepared in the presence of triethylaluminium and titanium tetrachloride under low pressure. The polymer X is-

Options :

36669413229. Polytetrafluoroethane

36669413230. Polyacrylonitrile

36669413231. High density polythene

36669413232. Low density polythene

Question Number : 78 Question Id : 3666944252 Question Type : MCQ Option Shuffling : Yes Is



Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

बहुलक X रेखिक अणुओं से बना है और निकट रूप में संकलित है इसका निर्माण ट्राइएथिल ऐलुमीनियम और टाइटेनियम टेट्रा क्लोराइड की उपस्थिति में न्यून दाब पर किया जाता है I बहुलक X है

Options :

36669413229. पालीटेट्राफ्लुओरोएथीन

36669413230. पालीएक्रिलो नाइट्राइल

36669413231. उच्च घनत्व पॉलिथीन

36669413232. न्यून घनत्व पॉलिथीन

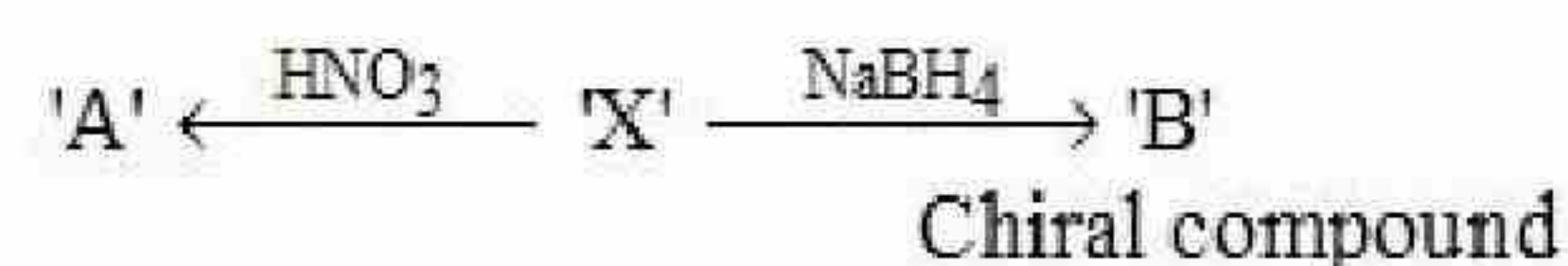
Question Number : 79 Question Id : 3666944253 Question Type : MCQ Option Shuffling : Yes Is

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

Instruction Time : 0

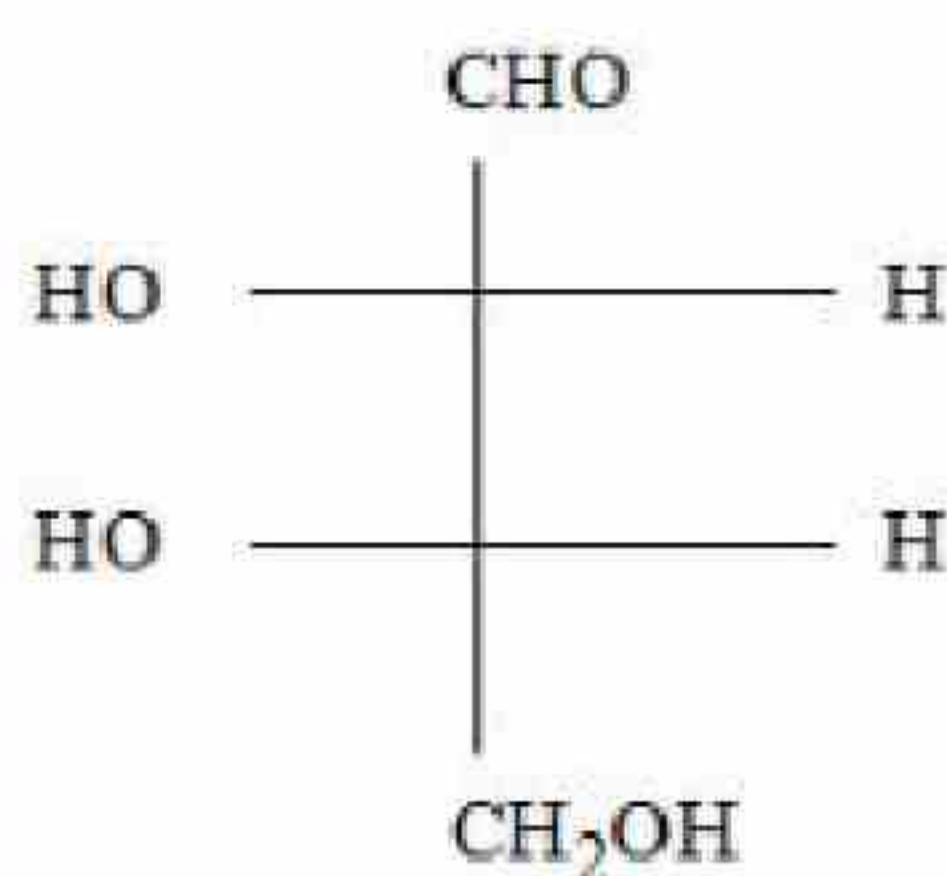
Correct Marks : 4 Wrong Marks : 1

L-isomer of tetrose X ($C_4H_8O_4$) gives positive Schiff's test and has two chiral carbons. On acetylation, 'X' yields triacetate. 'X' also undergoes following reactions



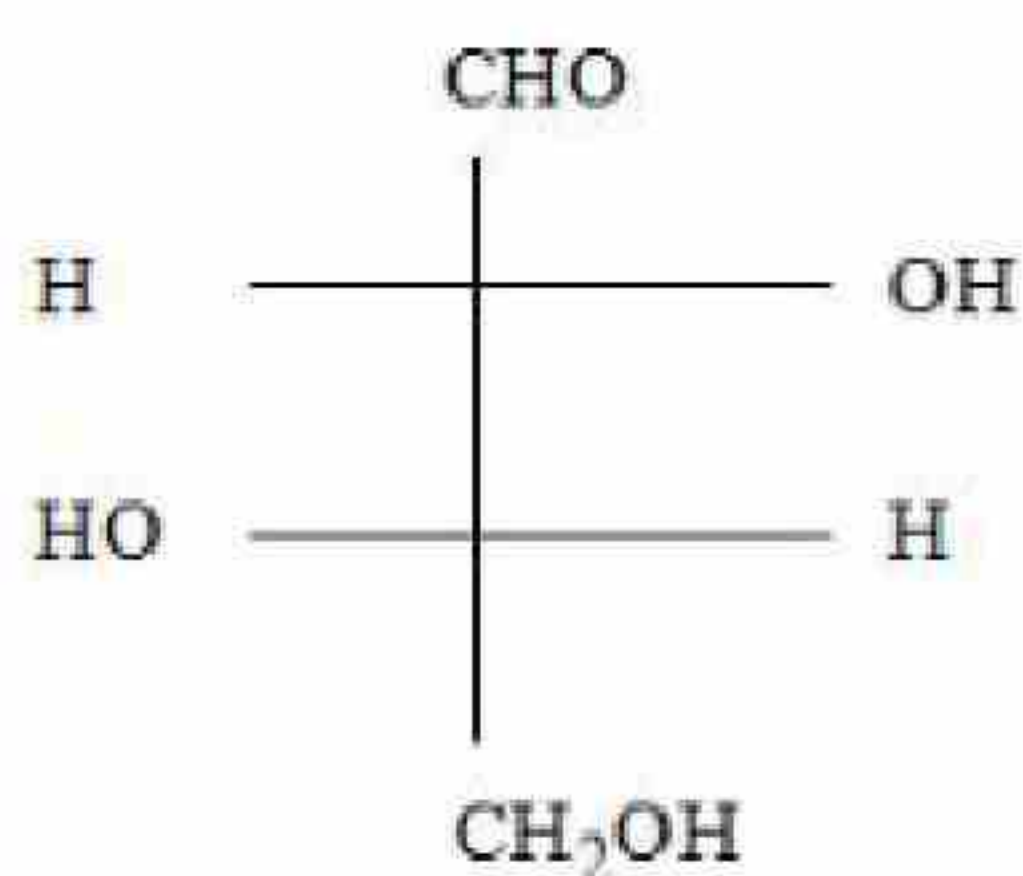
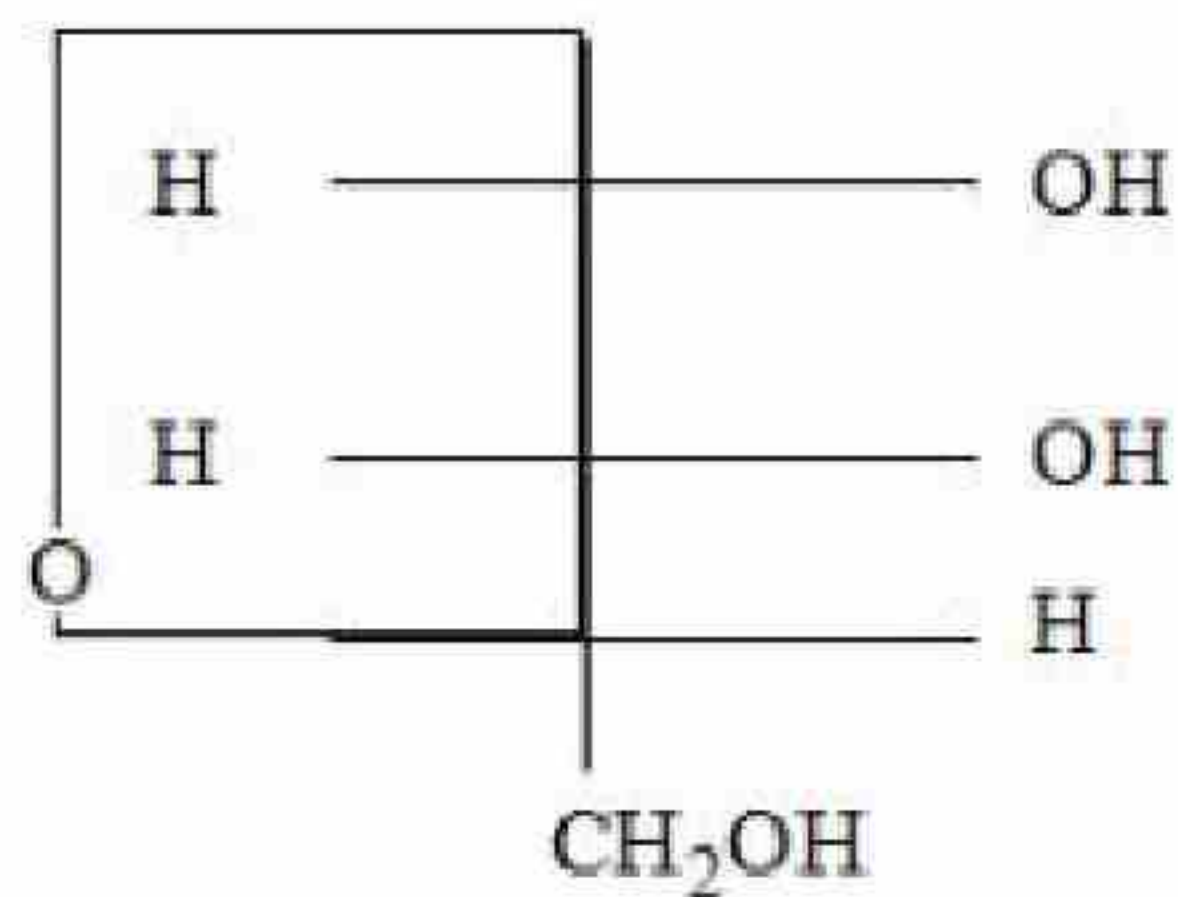
'X' is

Options :

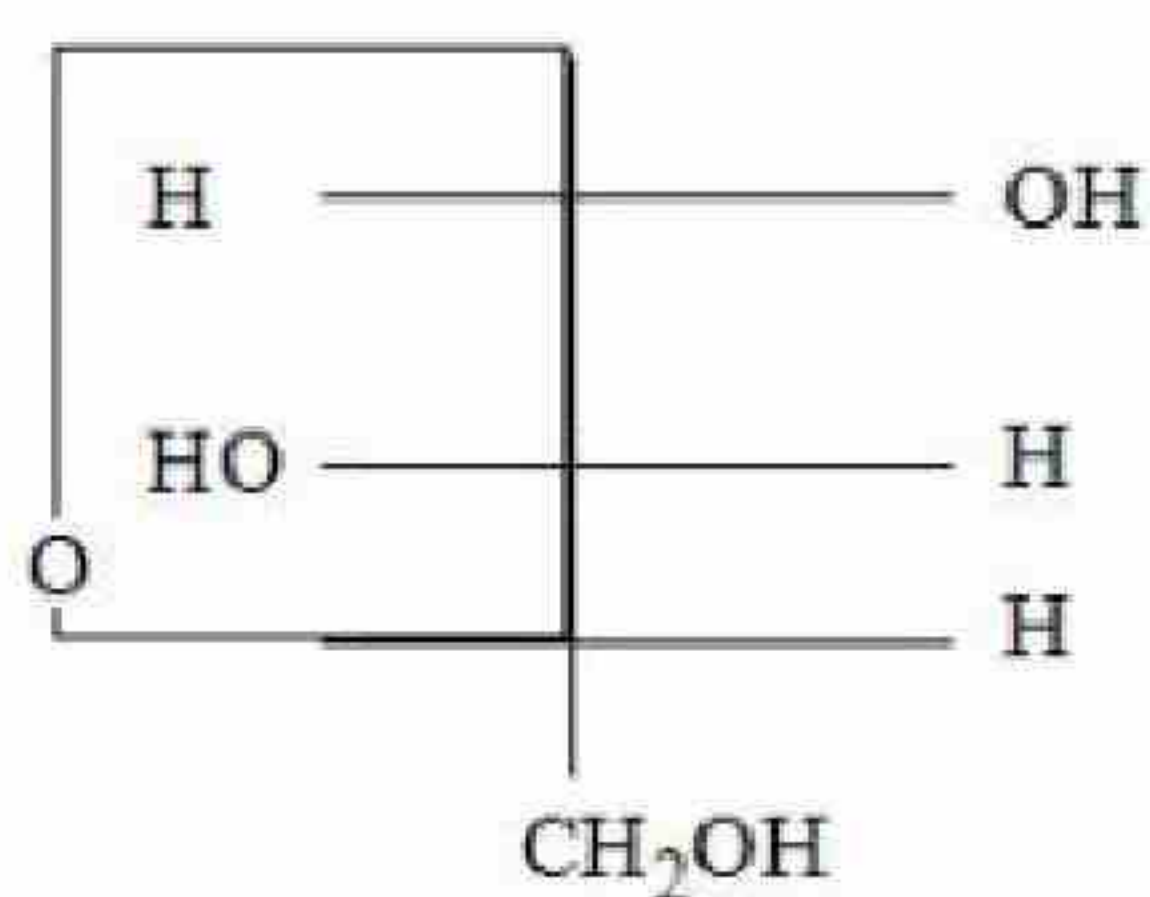


36669413233.





36669413235.

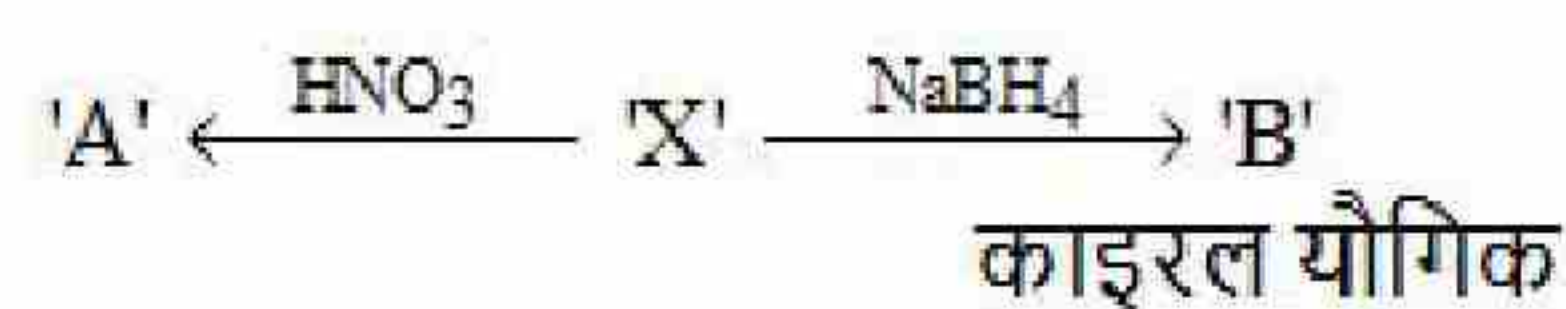


36669413236.

Question Number : 79 Question Id : 3666944253 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

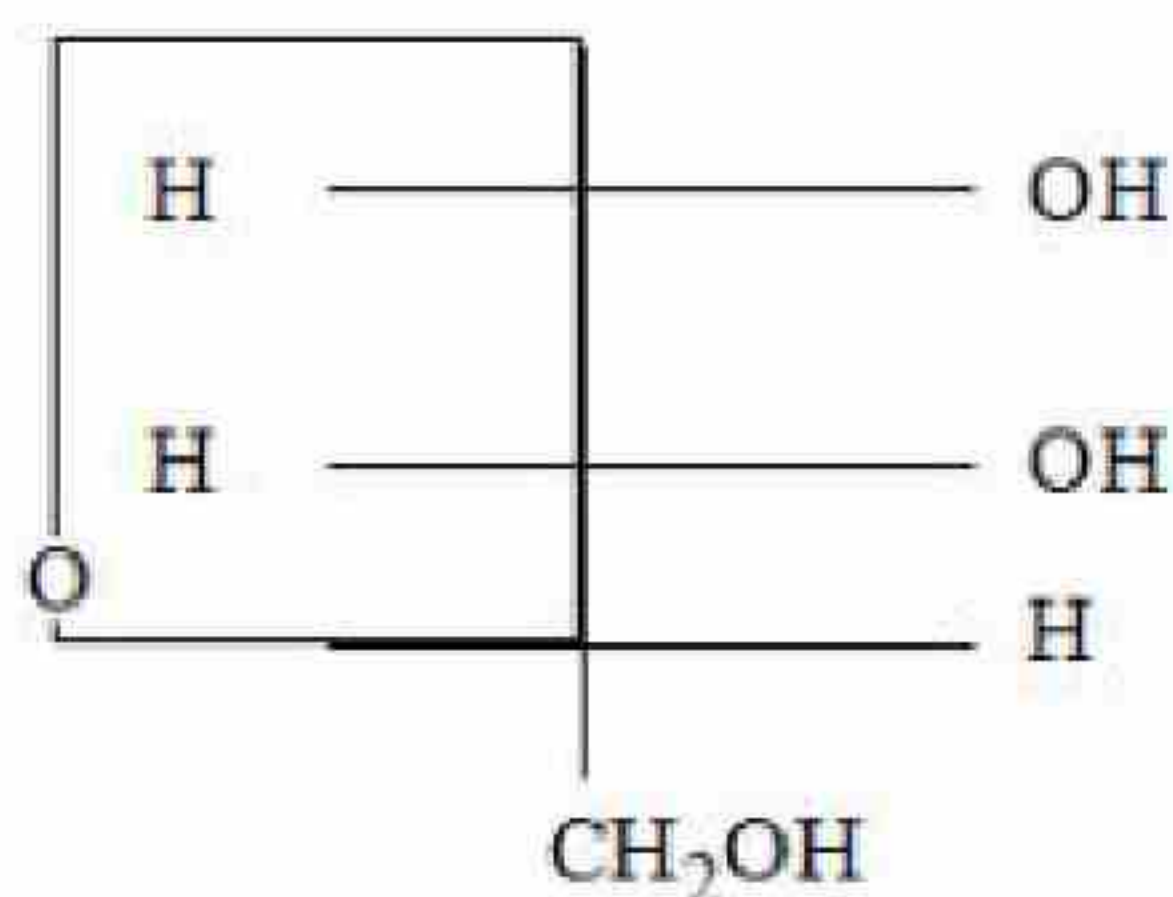
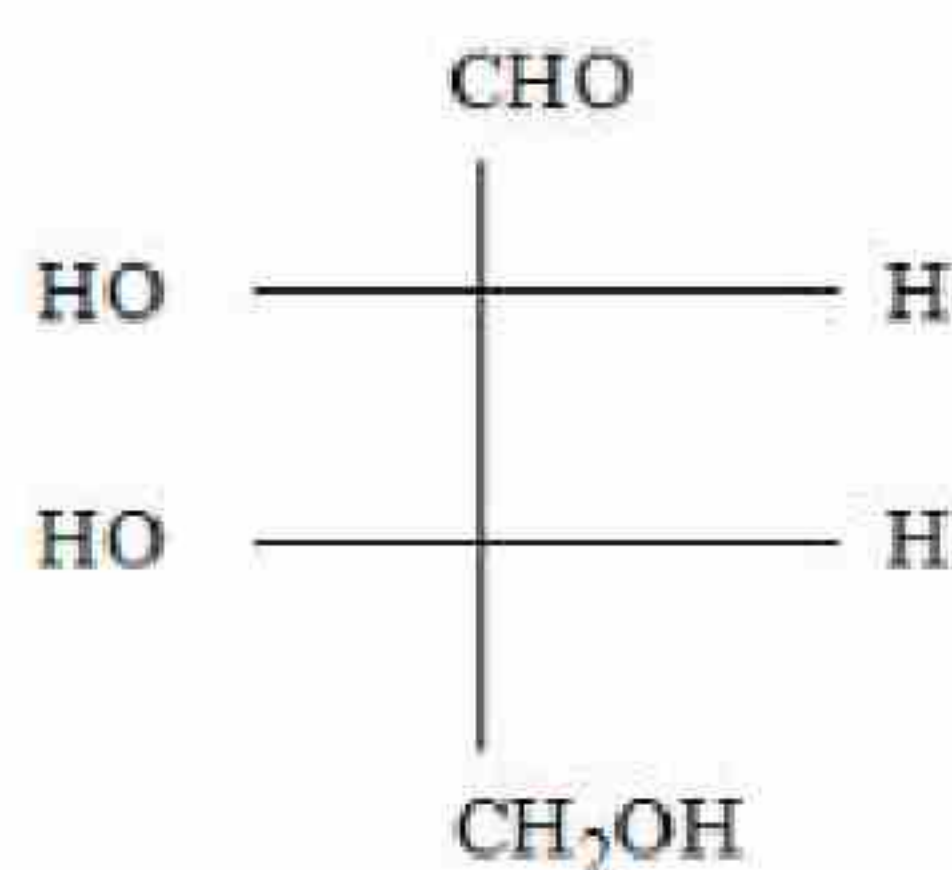
टेट्रोस X ($C_4H_8O_4$) का L समावयव सकारात्मक शिफ़ परीक्षण देता है। X का ऐसीटिलन, ट्राइऐसीटेट देता है। X निम्नलिखित अभिक्रियायें करता है।



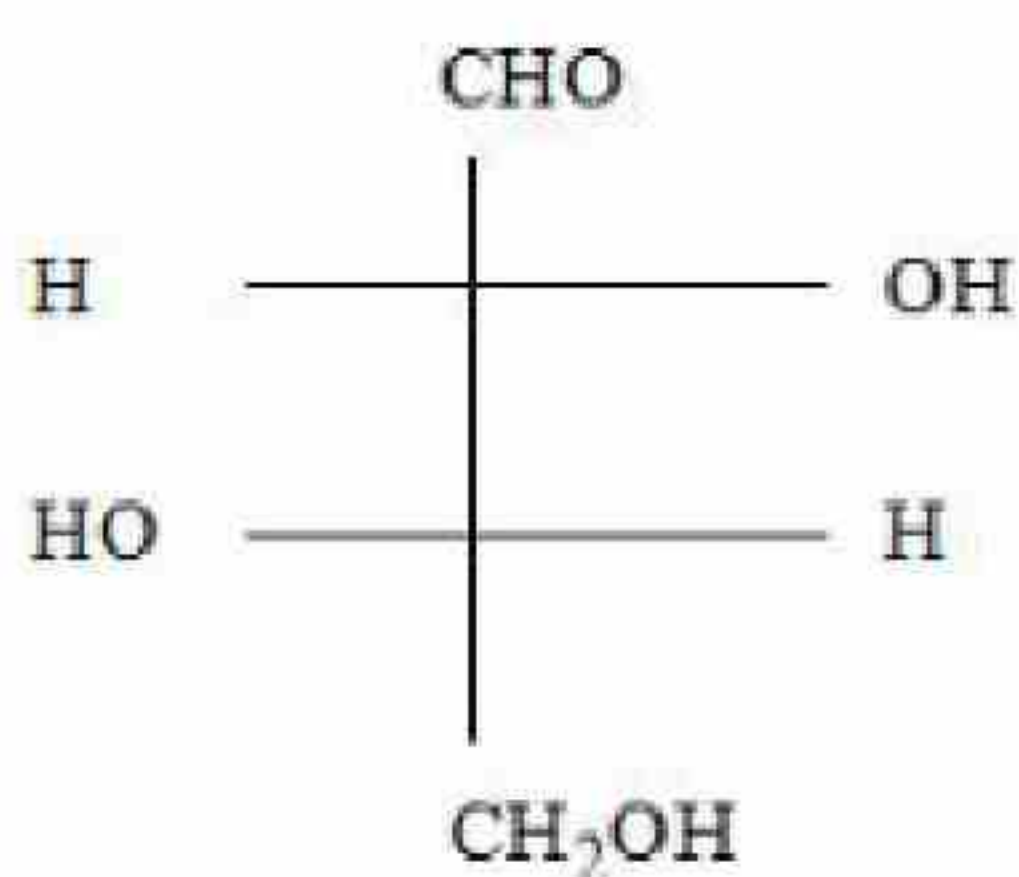
'X' है:

Options :

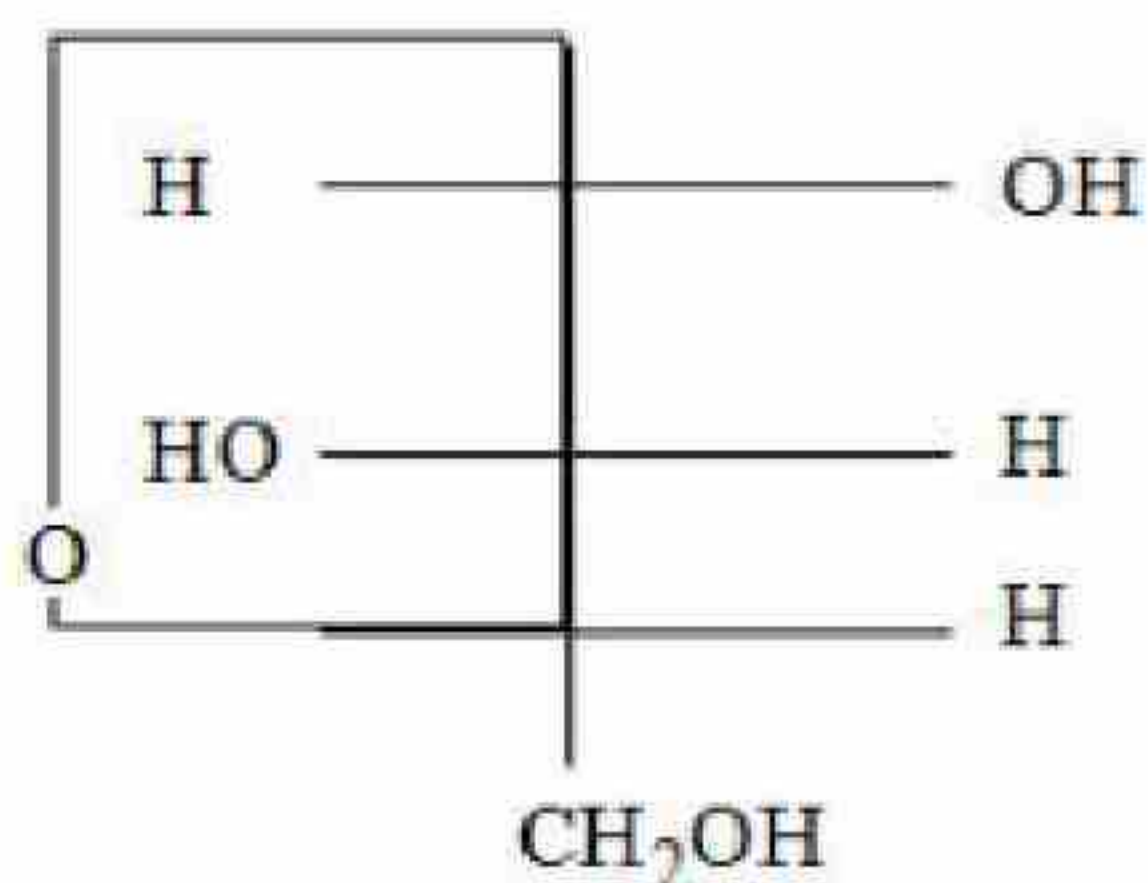
36669413233.



36669413234.



36669413235.



36669413236.

Question Number : 80 Question Id : 3666944254 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

When a solution of mixture having two inorganic salts was treated with freshly prepared ferrous sulphate in acidic medium, a dark brown ring was formed whereas on treatment with neutral FeCl_3 , it gave deep red colour which disappeared on boiling and a brown red ppt was formed. The mixture contains

Options :

36669413237. $\text{C}_2\text{O}_4^{2-}$ & NO_3^-

36669413238. CH_3COO^- & NO_3^-

36669413239. SO_3^{2-} & CH_3COO^-

36669413240. SO_3^{2-} & $\text{C}_2\text{O}_4^{2-}$

Question Number : 80 Question Id : 3666944254 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

दो अकार्बनिक साल्टों के मिश्रण के विलयन को जब अम्लीय माध्यम में तुरंत निर्मित फेरस सल्फेट के विलयन से उपचारित करते हैं तो भूरे रंग का वलय बनता है जबकि उदासीन FeCl_3 से उपचारित करने पर गहरा लाल रंग प्राप्त होता है। यह रंग विलयन को उबालने पर उड़ जाता है और भूरे-लाल रंग का अवक्षेप मिलता है।

मिश्रण में उपस्थित हैं

Options :

36669413237. $\text{C}_2\text{O}_4^{2-}$ & NO_3^-

36669413238. CH_3COO^- & NO_3^-

36669413239. SO_3^{2-} & CH_3COO^-

36669413240. SO_3^{2-} & $\text{C}_2\text{O}_4^{2-}$

Chemistry Section B

Section Id :	366694245
Section Number :	6
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	10
Number of Questions to be attempted :	5
Section Marks :	20
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	366694245
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 81 Question Id : 3666944255 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

A solution of sugar is obtained by mixing 200g of its 25% solution and 500g of its 40% solution (both by mass). The mass percentage of the resulting sugar solution is _____ (Nearest integer)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 81 Question Id : 3666944255 Question Type : SA Calculator : None



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

Correct Marks : 4 Wrong Marks : 1

चीनी का एक विलयन इसके 25% विलयन के 200g तथा 40% विलयन के 500g को मिश्रित करके बनाया है (दोनों द्रव्यमानों पर आधारित हैं) परिणाम स्वरूप प्राप्त चीनी के विलयन की प्रतिशत सांद्रता है _____ (निकटतम पूर्णांक में)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 82 Question Id : 3666944256 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

An atomic substance A of molar mass 12 g mol^{-1} has a cubic crystal structure with edge length of 300 pm. The no. of atoms present in one unit cell of A is _____ . (Nearest integer)

Given the density of A is 3.0 g mL^{-1} and $N_A = 6.02 \times 10^{23} \text{ mol}^{-1}$

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 82 Question Id : 3666944256 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

मोलर द्रव्यमान 12 g mol^{-1} के एक परमाण्विक पदार्थ A की संरचना धनीय है, जिसकी कोर लम्बाई 300 pm है। पदार्थ A की एक इकाई सेल में उपस्थित परमाणुओं की संख्या है _____ (निकटतम पूर्णांक में) (दिया है : A का घनत्व 3.0 g mL^{-1} $N_A = 6.02 \times 10^{23} \text{ mol}^{-1}$)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 83 **Question Id :** 3666944257 **Question Type :** SA **Calculator :** None

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

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

Solid fuel used in rocket is a mixture of Fe_2O_3 and Al (in ratio 1:2). The heat evolved (kJ) per gram of the mixture is _____ (Nearest integer)

Given: $\Delta H_f^\theta (\text{Al}_2\text{O}_3) = -1700 \text{ kJ mol}^{-1}$

$\Delta H_f^\theta (\text{Fe}_2\text{O}_3) = -840 \text{ kJ mol}^{-1}$

Molar mass of Fe, Al and O are 56, 27 and 16 g mol^{-1} respectively

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 83 **Question Id :** 3666944257 **Question Type :** SA **Calculator :** None

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

रॉकेट में उपयोग किया जाने वाला ठोस ईंधन Fe_2O_3 तथा Al का 1:2 अनुपात में मिश्रण है जो ऊष्मा (kJ) प्रति ग्राम मिश्रण से निकलेगी, वह है _____ (निकटतम पूर्णांक में)

दिया है $\Delta H_f^\theta (\text{Al}_2\text{O}_3) = -1700 \text{ kJ mol}^{-1}$

$$\Delta H_f^\theta (\text{Fe}_2\text{O}_3) = -840 \text{ kJ mol}^{-1}$$

मोलर द्रव्यमान : Fe, Al तथा O के क्रमशः

$$56, 27 \text{ तथा } 16 \text{ g mol}^{-1}$$

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 84 **Question Id :** 3666944258 **Question Type :** SA **Calculator :** None

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

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

0.004 M K_2SO_4 solution is isotonic with 0.01 M glucose solution. Percentage dissociation of K_2SO_4 is _____ (Nearest integer)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 84 **Question Id :** 3666944258 **Question Type :** SA **Calculator :** None

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

Correct Marks : 4 Wrong Marks : 1

0.004 M K_2SO_4 का विलयन ग्लूकोस के 0.01 M विलयन से समपरासरी है। K_2SO_4 का प्रतिशत वियोजन _____ है (निकटतम पूर्णांक में)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 85 Question Id : 3666944259 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

A mixture of 1 mole of H_2O and 1 mole of CO is taken in a 10 litre container and heated to 725 K. At equilibrium 40% of water by mass reacts with carbon monoxide according to the equation: $CO(g) + H_2O(g) \rightleftharpoons CO_2(g) + H_2(g)$. The equilibrium constant $K_c \times 10^2$ for the reaction is _____. (Nearest integer)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 85 Question Id : 3666944259 Question Type : SA Calculator : None

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

Correct Marks : 4 Wrong Marks : 1

1 मोल H_2O तथा 1 मोल CO के मिश्रण को 10 लीटर के बर्तन में लेकर 725 K पर गर्म किया है। साम्य अवस्था में जल का 40% (द्रव्यमान से) कार्बन मोनोऑक्साइड से निम्नलिखित समीकरण अनुसार अभिक्रिया करता है



अभिक्रिया के लिए साम्य स्थिरांक $K_c \times 10^2$ _____ है (निकटतम पूर्णांक में)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 86 **Question Id :** 3666944260 **Question Type :** SA **Calculator :** None

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

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

In an electrochemical reaction of lead, at standard temperature, if

$E^\circ_{(\text{Pb}^{2+}/\text{Pb})} = m$ Volt and $E^\circ_{(\text{Pb}^{4+}/\text{Pb})} = n$ Volt, then the value of $E^\circ_{(\text{Pb}^{2+}/\text{Pb}^{4+})}$ is given by $m - xn$. The value of x is _____. (Nearest integer)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 86 **Question Id :** 3666944260 **Question Type :** SA **Calculator :** None

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

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

लेड की मानक ताप पर एक विद्युत्-रासायनिक अभिक्रिया में यदि $E^\circ(\text{Pb}^{2+}/\text{Pb}) = m$ तथा $E^\circ(\text{Pb}^{4+}/\text{Pb}) = n$ वोल्ट है तो $E^\circ(\text{Pb}^{2+}/\text{Pb}^{4+})$ का मान देता है $m - xn$. x का मान _____ है

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

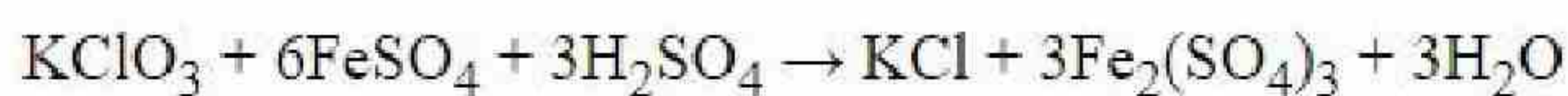
Possible Answers :

10

Question Number : 87 **Question Id :** 3666944261 **Question Type :** SA **Calculator :** None

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

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



The above reaction was studied at 300 K by monitoring the concentration of FeSO_4 in which initial concentration was 10 M and after half an hour became 8.8 M. The rate of production of $\text{Fe}_2(\text{SO}_4)_3$ is _____ $\times 10^{-6} \text{ mol L}^{-1} \text{ s}^{-1}$.
(Nearest integer)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 87 **Question Id :** 3666944261 **Question Type :** SA **Calculator :** None

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

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



उपरोक्त अभिक्रिया का अध्ययन 300 K पर FeSO_4 की सांद्रता माप कर किया गया। इसकी प्रारंभिक सांद्रता 10 M थी और आधा घंटे पश्चात 8.8 M हो गयी।

$\text{Fe}_2(\text{SO}_4)_3$ के उत्पादन की दर है _____ $\times 10^{-6} \text{ mol L}^{-1} \text{ s}^{-1}$

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 88 **Question Id :** 3666944262 **Question Type :** SA **Calculator :** None

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

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

The ratio of spin-only magnetic moment values $\mu_{\text{eff}} [\text{Cr}(\text{CN})_6]^{3-} / \mu_{\text{eff}} [\text{Cr}(\text{H}_2\text{O})_6]^{3+}$ is _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 88 **Question Id :** 3666944262 **Question Type :** SA **Calculator :** None

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

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

चुम्बकीय आघूर्णों के केवल स्पिन मानों का अनुपात $\mu_{\text{eff}} [\text{Cr}(\text{CN})_6]^{3-} / \mu_{\text{eff}} [\text{Cr}(\text{H}_2\text{O})_6]^{3+}$ है

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

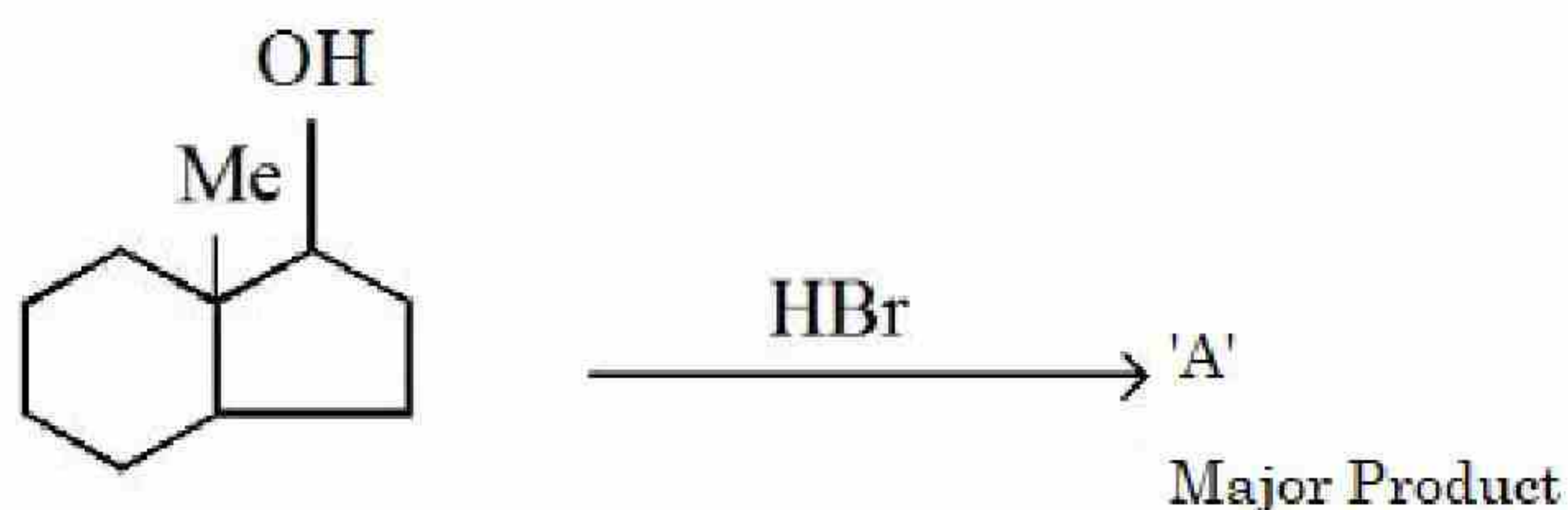
Possible Answers :

10

Question Number : 89 **Question Id :** 3666944263 **Question Type :** SA **Calculator :** None

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

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



The number of hyperconjugation structures involved to stabilize carbocation formed in the above reaction is _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Question Number : 89 **Question Id :** 3666944263 **Question Type :** SA **Calculator :** None

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

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



उपरोक्त अभिक्रिया में निर्मित कार्बधनायन को स्थायित्व प्रदान करने में सम्मिलित अति संयुग्मन संरचनाओं की संख्या _____ है .

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

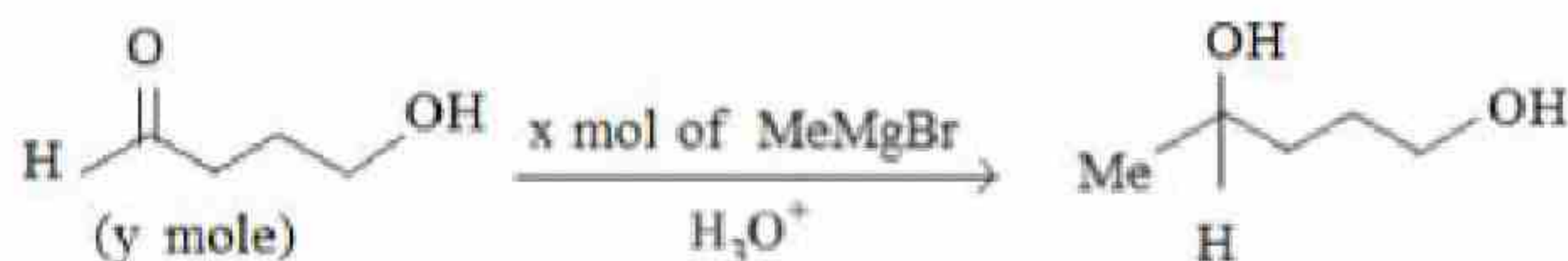
Possible Answers :

10

Question Number : 90 **Question Id :** 3666944264 **Question Type :** SA **Calculator :** None

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

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



The ratio x/y on completion of the above reaction is _____.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

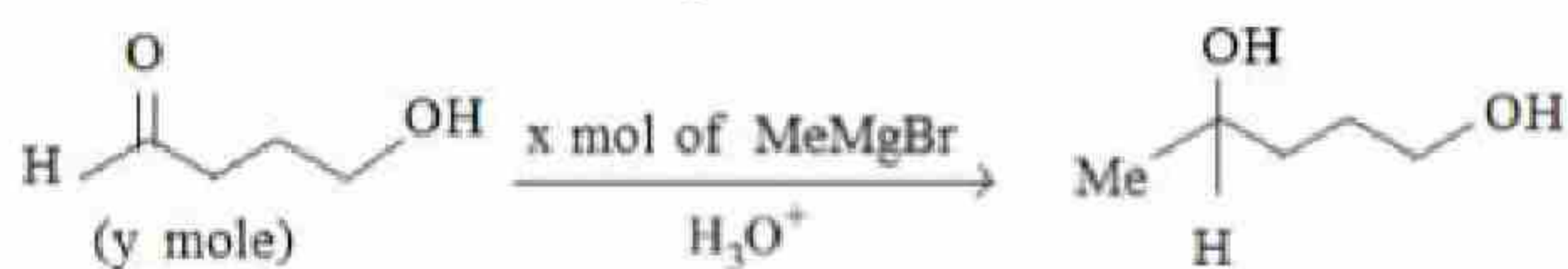
Possible Answers :

10

Question Number : 90 **Question Id :** 3666944264 **Question Type :** SA **Calculator :** None

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

Correct Marks : 4 Wrong Marks : 1



उपरोक्त अभिक्रिया के पूर्ण होने पर x/y का अनुपात _____ है .

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10