

National Testing Agency

Question Paper Name :	BTECH E 4th Sep 2020 Shift 1
Subject Name :	BTECH E
Creation Date :	2020-09-04 15:20:24
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 :	405036122
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 :	405036407
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 :	405036781
Question Shuffling Allowed :	Yes

Question Number : 26 Question Id : 40503611181 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 :

- | | |
|---------------|----------------|
| (i) Foam | (a) smoke |
| (ii) Gel | (b) cell fluid |
| (iii) Aerosol | (c) jellies |
| (iv) Emulsion | (d) rubber |
| | (e) froth |
| | (f) milk |

Options :

40503640606. (i)-(e), (ii)-(c), (iii)-(a), (iv)-(f)

40503640607. (i)-(b), (ii)-(c), (iii)-(e), (iv)-(d)

40503640608. (i)-(d), (ii)-(b), (iii)-(e), (iv)-(f)

40503640609. (i)-(d), (ii)-(b), (iii)-(a), (iv)-(e)

Question Number : 26 Question Id : 40503611181 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 को सुमेलित कीजिए :

- | | |
|--------------|--------------------|
| (i) फोम | (a) स्मोक (धुआँ) |
| (ii) जेल | (b) सेल तरल |
| (iii) ऐरोसॉल | (c) जेली |
| (iv) इमल्शन | (d) रबर |
| | (e) फ्रॉथ |
| | (f) दूध |

Options :

40503640606. (i)-(e), (ii)-(c), (iii)-(a), (iv)-(f)

40503640607. (i)-(b), (ii)-(c), (iii)-(e), (iv)-(d)

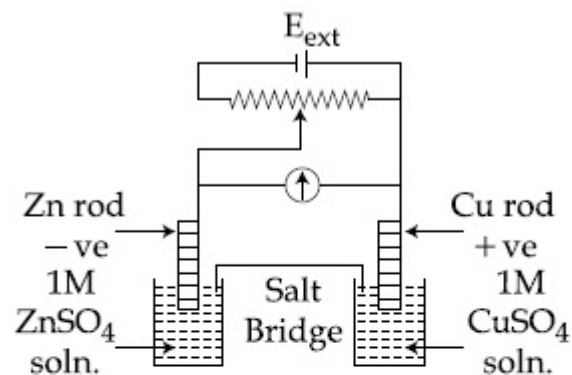
40503640608. (i)-(d), (ii)-(b), (iii)-(e), (iv)-(f)

40503640609. (i)-(d), (ii)-(b), (iii)-(a), (iv)-(e)

Question Number : 27 Question Id : 40503611182 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



$$E_{\text{Cu}^{2+}|\text{Cu}}^{\circ} = +0.34 \text{ V}$$

$$E_{\text{Zn}^{2+}|\text{Zn}}^{\circ} = -0.76 \text{ V}$$

Identify the incorrect statement from the options below for the above cell :

Options :

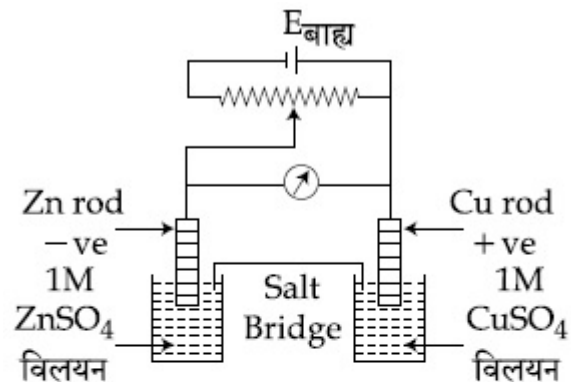
40503640610. If $E_{\text{ext}} < 1.1 \text{ V}$, Zn dissolves at anode and Cu deposits at cathode

40503640611. If $E_{\text{ext}} = 1.1 \text{ V}$, no flow of e^{-} or current occurs

40503640612. If $E_{\text{ext}} > 1.1 \text{ V}$, e^{-} flows from Cu to Zn

40503640613. If $E_{\text{ext}} > 1.1 \text{ V}$, Zn dissolves at Zn electrode and Cu deposits at Cu electrode

Question Number : 27 Question Id : 40503611182 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



$$E_{\text{Cu}^{2+}|\text{Cu}}^{\circ} = +0.34 \text{ V}$$

$$E_{\text{Zn}^{2+}|\text{Zn}}^{\circ} = -0.76 \text{ V}$$

उपरोक्त सेल के लिए नीचे दिये गये विकल्पों में से गलत कथन को पहचानिये :

Options :

40503640610. यदि $E_{\text{बाह्य}} < 1.1 \text{ V}$, जिंक एनोड पर घुलता है तथा Cu कैथोड पर जमा होता है।

40503640611. यदि $E_{\text{बाह्य}} = 1.1 \text{ V}$, e^{-} अथवा धारा का प्रवाह नहीं होगा।

40503640612. यदि $E_{\text{बाह्य}} > 1.1 \text{ V}$, इलेक्ट्रॉन का प्रवाह कॉपर से जिंक को होगा।

यदि $E_{\text{बाह्य}} > 1.1 \text{ V}$, Zn, जिंक इलेक्ट्रोड पर घुलता है तथा Cu, कापर इलेक्ट्रोड पर जमा होता है।

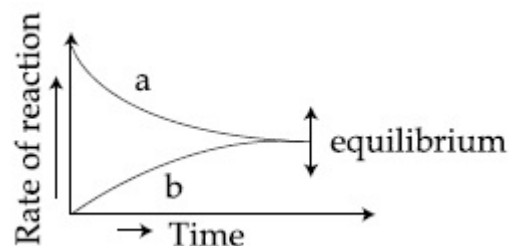
40503640613.

Question Number : 28 Question Id : 40503611183 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

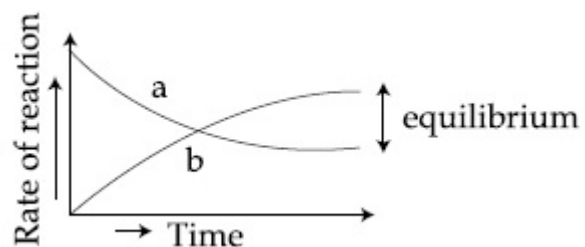
Correct Marks : 4 Wrong Marks : 1

For the equilibrium $A \rightleftharpoons B$, the variation of the rate of the forward (a) and reverse (b) reaction with time is given by :

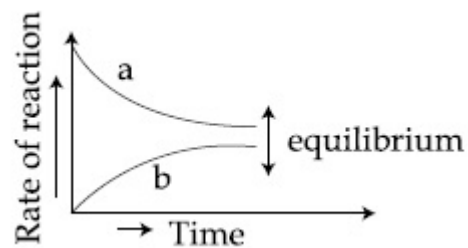
Options :



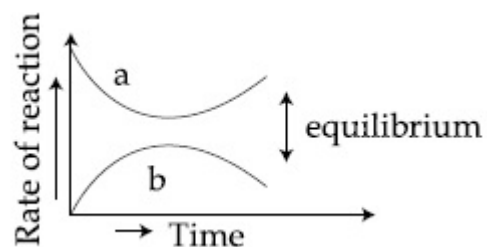
40503640614.



40503640615.



40503640616.

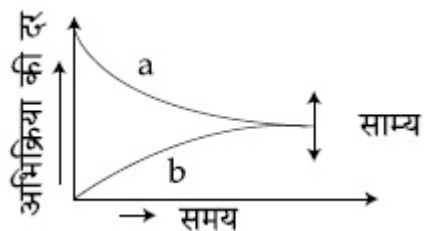


40503640617.

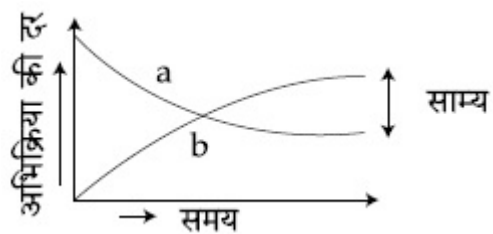
Question Number : 28 Question Id : 40503611183 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

साम्य, $A \rightleftharpoons B$, के लिए, समय के साथ अग्र (a) तथा उत्क्रम (b) अभिक्रिया की दर का परिवर्तन निम्न के द्वारा दिया जायेगा :

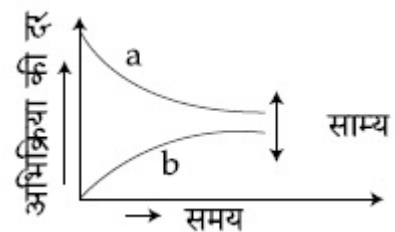
Options :



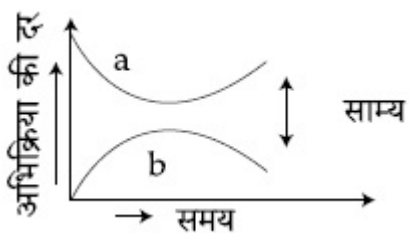
40503640614.



40503640615.



40503640616.



40503640617.

Question Number : 29 Question Id : 40503611184 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 one mole of an ideal gas, which of these statements must be true ?

- (a) U and H each depends only on temperature
- (b) Compressibility factor z is not equal to 1
- (c) $C_{P,m} - C_{V,m} = R$
- (d) $dU = C_V dT$ for any process

Options :

40503640618. (c) and (d)

40503640619. (a) and (c)

40503640620. (b), (c) and (d)

40503640621. (a), (c) and (d)

Question Number : 29 Question Id : 40503611184 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 आदर्श गैस के एक मोल के लिए, इन कथनों में से कौन सत्य होना चाहिए ?

- (a) U तथा H प्रत्येक मात्र ताप पर निर्भर करते हैं।
- (b) संपीड्यता गुणांक z , 1 के बराबर नहीं है।
- (c) $C_{P,m} - C_{V,m} = R$
- (d) $dU = C_V dT$ किसी प्रक्रम के लिए

Options :

40503640618. (c) तथा (d)

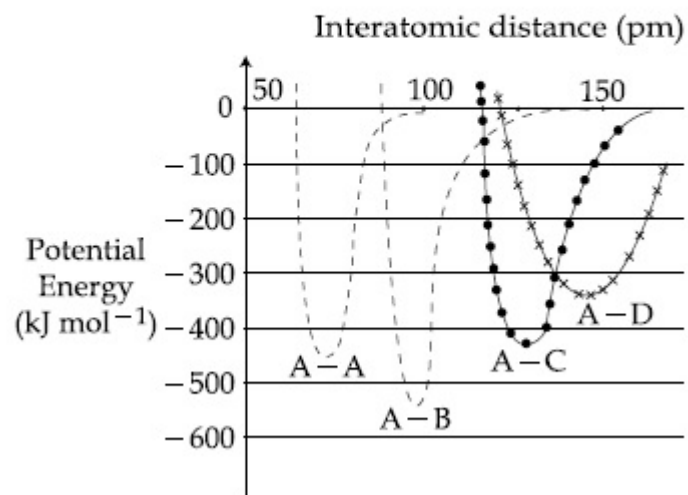
40503640619. (a) तथा (c)

40503640620. (b), (c) तथा (d)

40503640621. (a), (c) तथा (d)

Question Number : 30 Question Id : 40503611185 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 intermolecular potential energy for the molecules A, B, C and D given below suggests that :



Options :

40503640622. A-A has the largest bond enthalpy.

40503640623. A-B has the stiffest bond.

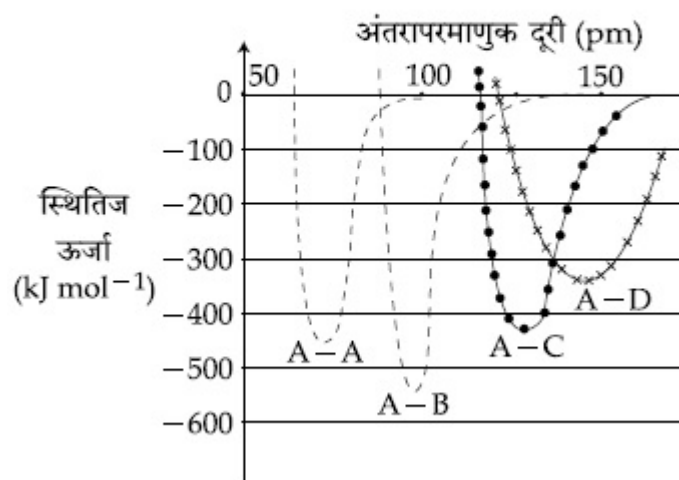
40503640624. A-D has the shortest bond length.

40503640625. D is more electronegative than other atoms.

Question Number : 30 Question Id : 40503611185 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

अणुओं के लिए अंतराअणुक स्थितिज ऊर्जा जो A, B, C तथा D द्वारा नीचे दिखाये गये हैं, बताते हैं कि :



Options :

40503640622. A-A की आबन्ध एन्थैल्पी अधिकतम है।

40503640623. A-B का आबन्ध सर्वाधिक सख्त है।

40503640624. A-D की आबन्ध लम्बाई लघुत्तम है।

40503640625. अन्य परमाणुओं की तुलना में D ज्यादा ऋण विद्युती है।

Question Number : 31 Question Id : 40503611186 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 region in the electromagnetic spectrum where the Balmer series lines appear is :

Options :

40503640626. Ultraviolet

40503640627. Visible

40503640628. Infrared

40503640629. Microwave

Question Number : 31 Question Id : 40503611186 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

विद्युत चुम्बकीय स्पेक्ट्रम में वह क्षेत्र, जहाँ बामर श्रेणी की लाइनें मिलती हैं, होगा :

Options :

40503640626. पराबैंगनी

40503640627. दृश्य

40503640628. अवरक्त

40503640629. माइक्रोवेव

Question Number : 32 Question Id : 40503611187 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 ionic radii of O^{2-} , F^- , Na^+ and Mg^{2+} are in the order :

Options :

40503640630. $O^{2-} > F^- > Na^+ > Mg^{2+}$

40503640631. $Mg^{2+} > Na^+ > F^- > O^{2-}$

40503640632. $O^{2-} > F^- > Mg^{2+} > Na^+$

40503640633. $F^- > O^{2-} > Na^+ > Mg^{2+}$

Question Number : 32 Question Id : 40503611187 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

O^{2-} , F^- , Na^+ तथा Mg^{2+} की आयनिक त्रिज्याएँ इस क्रम में हैं :

Options :

40503640630. $O^{2-} > F^{-} > Na^{+} > Mg^{2+}$

40503640631. $Mg^{2+} > Na^{+} > F^{-} > O^{2-}$

40503640632. $O^{2-} > F^{-} > Mg^{2+} > Na^{+}$

40503640633. $F^{-} > O^{2-} > Na^{+} > Mg^{2+}$

Question Number : 33 Question Id : 40503611188 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 statements (a) - (d), the correct ones are :

- (a) Lime stone is decomposed to CaO during the extraction of iron from its oxides.
- (b) In the extraction of silver, silver is extracted as an anionic complex.
- (c) Nickel is purified by Mond's process.
- (d) Zr and Ti are purified by Van Arkel method.

Options :

40503640634. (b), (c) and (d) only

40503640635. (a), (b), (c) and (d)

40503640636. (c) and (d) only

40503640637. (a), (c) and (d) only

Question Number : 33 Question Id : 40503611188 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) - (d) कथनों में, सही कथन हैं :

- (a) आयरन को इसकी ऑक्साइड से निष्कर्षित करने में लाइम स्टोन (चूनापत्थर) CaO में विघटित हो जाता है।
- (b) सिल्वर के निष्कर्षण में, सिल्वर एक ऋणायनी संकुल के रूप में निष्कर्षित होता है।
- (c) निकल को मान्ड प्रक्रम द्वारा शुद्ध करते हैं।
- (d) Zr तथा Ti को वान आर्केल विधि से शुद्ध करते हैं।

Options :

40503640634. केवल (b), (c) तथा (d)

40503640635. (a), (b), (c) तथा (d)

40503640636. केवल (c) तथा (d)

40503640637. केवल (a), (c) तथा (d)

Question Number : 34 Question Id : 40503611189 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

On combustion of Li, Na and K in excess of air, the major oxides formed, respectively, are :

Options :

40503640638. Li_2O , Na_2O and K_2O_2

40503640639. Li_2O , Na_2O_2 and KO_2

40503640640. Li_2O , Na_2O_2 and K_2O

40503640641. Li_2O_2 , Na_2O_2 and K_2O_2

Question Number : 34 Question Id : 40503611189 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

वायु के आधिक्य में Li, Na तथा K के दहन पर बननेवाली प्रमुख आक्साइडें क्रमशः हैं :

Options :

40503640638. Li_2O , Na_2O तथा K_2O_2

40503640639. Li_2O , Na_2O_2 तथा KO_2

40503640640. Li_2O , Na_2O_2 तथा K_2O

40503640641. Li_2O_2 , Na_2O_2 तथा K_2O_2

Question Number : 35 Question Id : 40503611190 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

On heating, lead(II) nitrate gives a brown gas (A). The gas (A) on cooling changes to a colourless solid/liquid (B). (B) on heating with NO changes to a blue solid (C). The oxidation number of nitrogen in solid (C) is :

Options :

40503640642. +2

40503640643. +3

40503640644. +4

40503640645. +5

Question Number : 35 Question Id : 40503611190 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

लेड(II) नाइट्रेट गरम करने पर एक भूरे रंग की गैस (A) देता है। गैस (A) ठंडा करने पर एक रंगहीन ठोस /द्रव (B) में परिवर्तित हो जाता है। (B), NO के साथ गरम करने पर एक नीले रंग के ठोस (C) में बदल जाता है। ठोस (C) में नाइट्रोजन की ऑक्सीकरण संख्या है :

Options :

40503640642. +2

40503640643. +3

40503640644. +4

40503640645. +5

Question Number : 36 Question Id : 40503611191 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 elements with atomic numbers 101 and 104 belong to, respectively, :

Options :

40503640646. Group 11 and Group 4

40503640647. Actinoids and Group 6

40503640648. Group 6 and Actinoids

40503640649. Actinoids and Group 4

Question Number : 36 Question Id : 40503611191 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

तत्व, जिनकी परमाणु संख्या 101 तथा 104 हैं, क्रमशः
इनसे सम्बन्धित है :

Options :

40503640646. ग्रुप 11 तथा ग्रुप 4

40503640647. ऐक्टिन्वायड्स तथा ग्रुप 6

40503640648. ग्रुप 6 तथा ऐक्टिन्वायड्स

40503640649. ऐक्टिन्वायड्स तथा ग्रुप 4

Question Number : 37 Question Id : 40503611192 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 number of isomers possible for
[Pt(en)(NO₂)₂] is :

Options :

40503640650. 1

40503640651. 2

40503640652. 3

40503640653. 4

Question Number : 37 Question Id : 40503611192 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

[Pt(en)(NO₂)₂] के लिए संभव समावयवियों की संख्या है :

Options :

40503640650. 1

40503640651. 2

40503640652. 3

40503640653. 4

Question Number : 38 Question Id : 40503611193 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 pair in which both the species have the same magnetic moment (spin only) is :

Options :

40503640654. [Cr(H₂O)₆]²⁺ and [CoCl₄]²⁻

40503640655. [Cr(H₂O)₆]²⁺ and [Fe(H₂O)₆]²⁺

40503640656. $[\text{Mn}(\text{H}_2\text{O})_6]^{2+}$ and $[\text{Cr}(\text{H}_2\text{O})]^{2+}$

40503640657. $[\text{Co}(\text{OH})_4]^{2-}$ and $[\text{Fe}(\text{NH}_3)_6]^{2+}$

Question Number : 38 Question Id : 40503611193 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

वह युग्म, जिसमें दोनों स्पीशीज़ का वही चुम्बकीय
आघूर्ण (स्पिन मात्र) है, होगा :

Options :

40503640654. $[\text{Cr}(\text{H}_2\text{O})_6]^{2+}$ तथा $[\text{CoCl}_4]^{2-}$

40503640655. $[\text{Cr}(\text{H}_2\text{O})_6]^{2+}$ तथा $[\text{Fe}(\text{H}_2\text{O})_6]^{2+}$

40503640656. $[\text{Mn}(\text{H}_2\text{O})_6]^{2+}$ तथा $[\text{Cr}(\text{H}_2\text{O})]^{2+}$

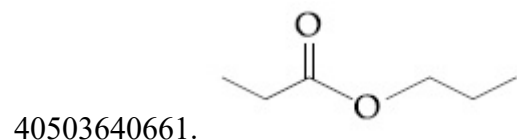
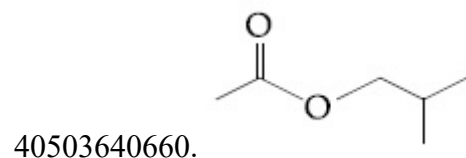
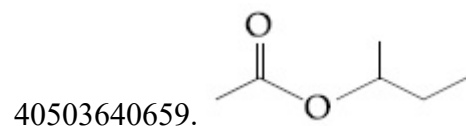
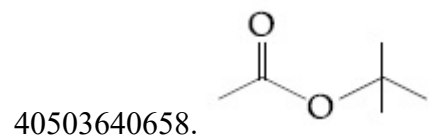
40503640657. $[\text{Co}(\text{OH})_4]^{2-}$ तथा $[\text{Fe}(\text{NH}_3)_6]^{2+}$

Question Number : 39 Question Id : 40503611194 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 organic compound (A) (molecular formula $C_6H_{12}O_2$) was hydrolysed with dil. H_2SO_4 to give a carboxylic acid (B) and an alcohol (C). 'C' gives white turbidity immediately when treated with anhydrous $ZnCl_2$ and conc. HCl . The organic compound (A) is :

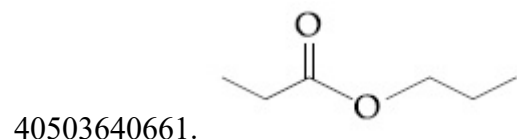
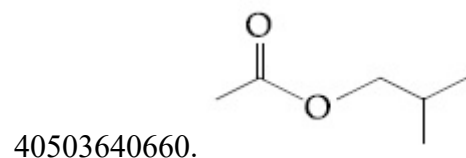
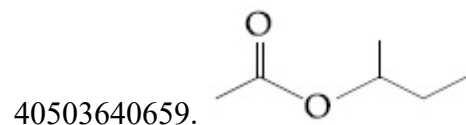
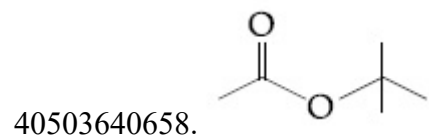
Options :



Question Number : 39 Question Id : 40503611194 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

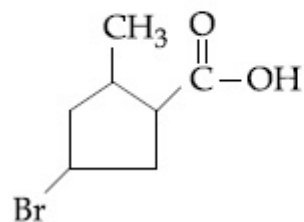
एक कार्बनिक यौगिक (A) (अणुसूत्र $C_6H_{12}O_2$) को तनु H_2SO_4 के साथ जलअपघटित किया गया जिससे कार्बोक्सिलिक एसिड (B) तथा ऐल्कोहॉल (C) मिलता है। जब निर्जल $ZnCl_2$ तथा सान्द्र HCl के साथ अभिकृत किया गया तो 'C' एक सफेद अविलता तुरंत देता है। कार्बनिक यौगिक (A) है :

Options :



Question Number : 40 Question Id : 40503611195 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 IUPAC name of the following compound is :



Options :

40503640662. 3-Bromo-5-methylcyclopentanoic acid

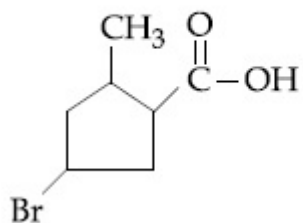
40503640663. 4-Bromo-2-methylcyclopentane carboxylic acid

40503640664. 3-Bromo-5-methylcyclopentane carboxylic acid

40503640665. 5-Bromo-3-methylcyclopentanoic acid

Question Number : 40 Question Id : 40503611195 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 यौगिक का आईयूपीएसी नाम है :



Options :

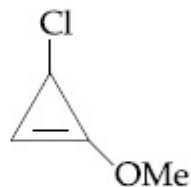
40503640662. 3-ब्रोमो-5-मेथिलसायक्लोपेन्टानोइक एसिड
40503640663. 4-ब्रोमो-2-मेथिलसायक्लोपेन्टेन कार्बाक्सिलिक एसिड
40503640664. 3-ब्रोमो-5-मेथिलसायक्लोपेन्टेन कार्बाक्सिलिक एसिड
40503640665. 5-ब्रोमो-3-मेथिलसायक्लोपेन्टेनोइक एसिड

Question Number : 41 Question Id : 40503611196 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

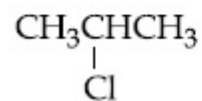
The decreasing order of reactivity of the following organic molecules towards AgNO_3 solution is :



(A)



(B)



(C)



(D)

Options :

40503640666. (A) > (B) > (C) > (D)

40503640667. (B) > (A) > (C) > (D)

40503640668. (A) > (B) > (D) > (C)

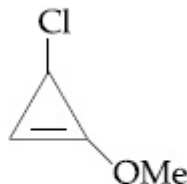
40503640669. (C) > (D) > (A) > (B)

Question Number : 41 Question Id : 40503611196 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

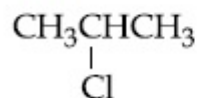
AgNO_3 घोल के प्रति निम्न कार्बनिक अणुओं की अभिक्रियाशीलता का घटता क्रम है :



(A)



(B)



(C)



(D)

Options :

40503640666. (A) > (B) > (C) > (D)

40503640667. (B) > (A) > (C) > (D)

40503640668. (A) > (B) > (D) > (C)

40503640669. (C) > (D) > (A) > (B)

Question Number : 42 Question Id : 40503611197 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

What are the functional groups present in the structure of maltose ?

Options :

40503640670. One acetal and one ketal

40503640671. One acetal and one hemiacetal

40503640672. One ketal and one hemiketal

40503640673. Two acetals

Question Number : 42 Question Id : 40503611197 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

माल्टोज की संरचना में उपस्थित कौन अभिलक्षणीय समूह हैं?

Options :

40503640670. एक ऐसीटल तथा एक केटल

40503640671. एक ऐसीटल तथा एक हेमीऐसिटल

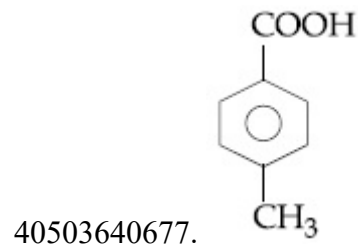
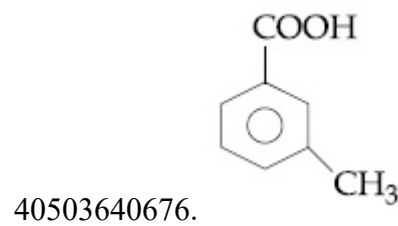
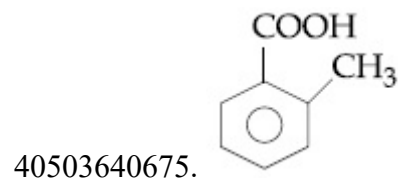
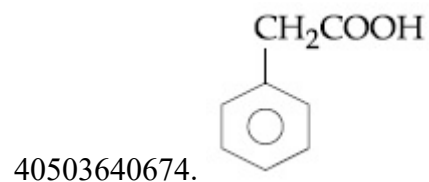
40503640672. एक केटल तथा एक हेमीकेटल

40503640673. दो ऐसिटल

Question Number : 43 Question Id : 40503611198 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

[P] on treatment with $\text{Br}_2/\text{FeBr}_3$ in CCl_4 produced a single isomer $\text{C}_8\text{H}_7\text{O}_2\text{Br}$ while heating [P] with sodalime gave toluene. The compound [P] is :

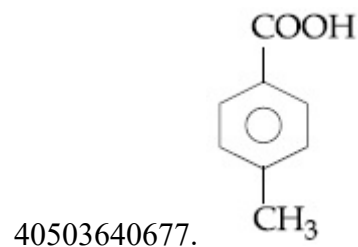
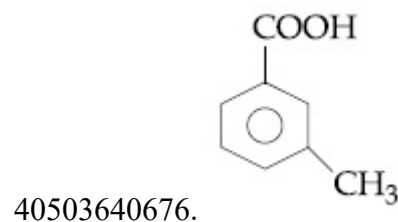
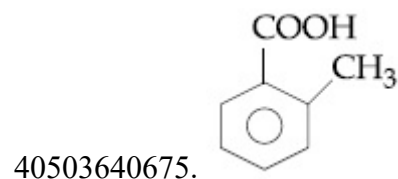
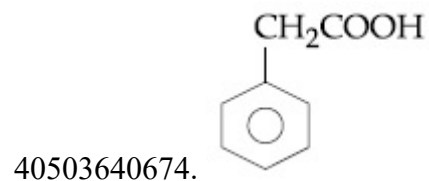
Options :



Question Number : 43 Question Id : 40503611198 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

[P], CCl_4 में $\text{Br}_2/\text{FeBr}_3$ के साथ अभिकृत करने पर एक एकल समावयवी $\text{C}_8\text{H}_7\text{O}_2\text{Br}$ को दिया जब कि [P] सोडालाइम के साथ गरम करने पर टालूईन दिया। यौगिक [P] है :

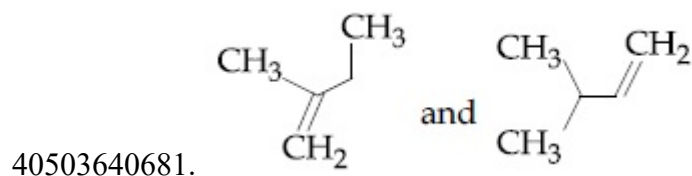
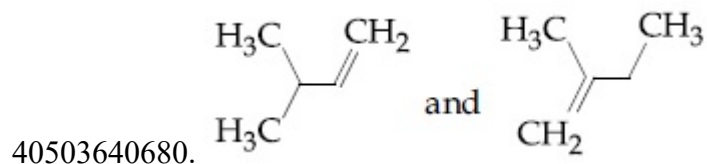
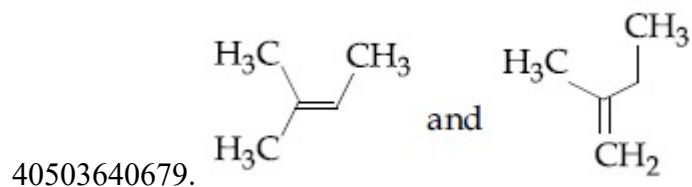
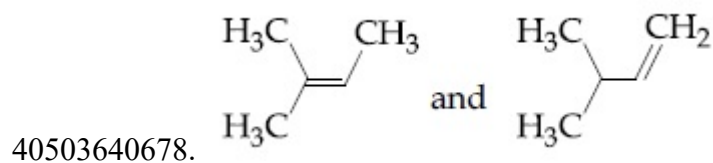
Options :



Question Number : 44 Question Id : 40503611199 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

When neopentyl alcohol is heated with an acid, it slowly converted into an 85 : 15 mixture of alkenes A and B, respectively. What are these alkenes ?

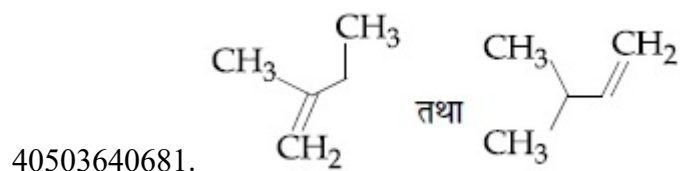
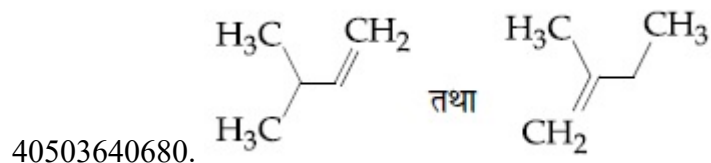
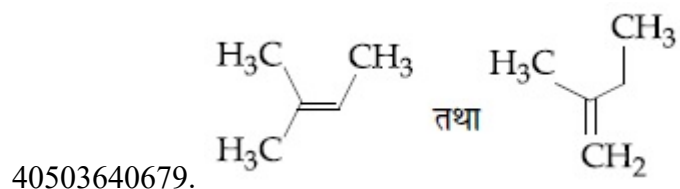
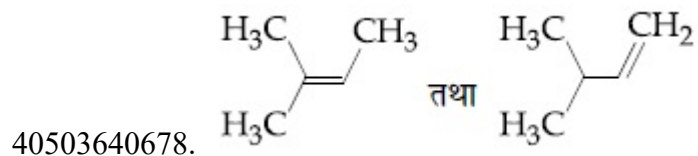
Options :



Question Number : 44 Question Id : 40503611199 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

जब निओपेन्टाइल ऐल्कोहॉल को एक अम्ल के साथ गरम किया जाता है तब वह क्रमशः A तथा B ऐल्कीनों के 85 : 15 मिश्रण में धीरे-धीरे बदल जाता है। ये ऐल्कीन क्या हैं ?

Options :



Question Number : 45 Question Id : 40503611200 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

Which of the following will react with $\text{CHCl}_3 + \text{alc. KOH}$?

Options :

40503640682. Adenine and proline

40503640683. Adenine and thymine

40503640684. Adenine and lysine

40503640685. Thymine and proline

Question Number : 45 Question Id : 40503611200 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 में से कौन CHCl_3 + ऐल्कोहलिक KOH के साथ अभिक्रिया करेगा ?

Options :

40503640682. ऐडेनिन तथा प्रोलीन

40503640683. ऐडेनिन तथा थायमीन

40503640684. ऐडेनिन तथा लायसिन

40503640685. थायमीन तथा प्रोलीन

Sub-Section Number :

2

Sub-Section Id :

405036782

Question Shuffling Allowed :

Yes

Question Number : 46 Question Id : 40503611201 Question Type : SA Display Question Number : Yes

Correct Marks : 4 Wrong Marks : 0

The mass of ammonia in grams produced when 2.8 kg of dinitrogen quantitatively reacts with 1 kg of dihydrogen 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 : 46 **Question Id :** 40503611201 **Question Type :** SA Display **Question Number :** Yes

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

जब डाइनाइट्रोजन का 2.8 kg मात्रात्मक रूप से डाइहाइड्रोजन के 1 kg के साथ अभिक्रिया करता है तो पैदा होने वाली अमोनिया की मात्रा (ग्राम में) होगी

_____.

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 :** 40503611202 **Question Type :** SA Display **Question Number :** Yes

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

At 300 K, the vapour pressure of a solution containing 1 mole of n-hexane and 3 moles of n-heptane is 550 mm of Hg. At the same temperature, if one more mole of n-heptane is added to this solution, the vapour pressure of the solution increases by 10 mm of Hg. What is the vapour pressure in mm Hg of n-heptane in its pure state _____ ?

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 :** 40503611202 **Question Type :** SA **Display Question Number :** Yes

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

300 K पर, एक विलयन, जिसमें 1 मोल n-हेक्सेन तथा 3 मोल n-हेप्टेन हैं, का वाष्प दाब 550 mm Hg है। इसी ताप पर, यदि n-हेप्टेन के 1 मोल को विलयन में मिलाया जाय तो विलयन का वाष्प दाब 10 mm Hg से बढ़ जाता है। n-हेप्टेन का, इसकी विशुद्ध अवस्था में, वाष्प दाब (mm Hg में) क्या होगा _____ ?

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 : 40503611203 Question Type : SA Display Question Number : Yes

Correct Marks : 4 Wrong Marks : 0

If 75% of a first order reaction was completed in 90 minutes, 60% of the same reaction would be completed in approximately (in minutes) _____.

(Take : $\log 2 = 0.30$; $\log 2.5 = 0.40$)

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 : 40503611203 Question Type : SA Display Question Number : Yes

Correct Marks : 4 Wrong Marks : 0

यदि एक प्रथम कोटि की अभिक्रिया का 75%, 90 मिनटों में पूरा हो गया तो इसी अभिक्रिया का 60% पूरा होगा लगभग कितने मिनट में? _____.

(मानें : $\log 2 = 0.30$; $\log 2.5 = 0.40$)

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 : 40503611204 Question Type : SA Display Question Number : Yes

Correct Marks : 4 Wrong Marks : 0

A 20.0 mL solution containing 0.2 g impure H_2O_2 reacts completely with 0.316 g of KMnO_4 in acid solution. The purity of H_2O_2 (in %) is _____ (mol. wt. of $\text{H}_2\text{O}_2 = 34$; mol. wt. of $\text{KMnO}_4 = 158$)

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 : 40503611204 Question Type : SA Display Question Number : Yes

Correct Marks : 4 Wrong Marks : 0

20.0 mL विलयन जिसमें 0.2 g अशुद्ध H_2O_2 है, अम्लीय विलयन में KMnO_4 के 0.316 g के साथ पूर्णतया अभिक्रिया करता है। H_2O_2 की शुद्धता (% में) होगी _____.

(H_2O_2 का अणुभार = 34; KMnO_4 का अणुभार = 158)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

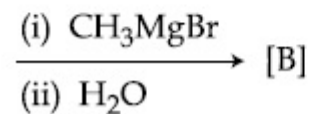
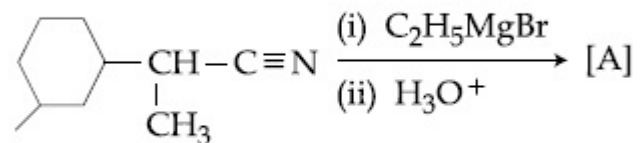
Possible Answers :

5 to 5.002

Question Number : 50 Question Id : 40503611205 Question Type : SA Display Question Number : Yes

Correct Marks : 4 Wrong Marks : 0

The number of chiral centres present in [B]
is _____.



Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

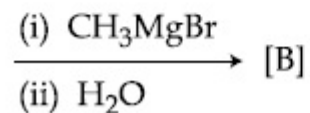
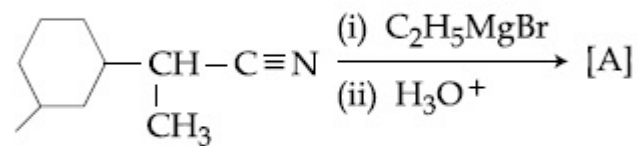
5 to 5.002

Question Number : 50 Question Id : 40503611205 Question Type : SA Display Question Number : Yes

Correct Marks : 4 Wrong Marks : 0

[B] में उपस्थित काइरल सेन्ट्रों 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