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 :	405036829
Question Shuffling Allowed :	Yes

Question Number : 26 Question Id : 40503611781 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 is not an essential amino acid ?

Options :

40503642646. Valine

40503642647. Leucine

40503642648. Lysine

40503642649. Tyrosine

Question Number : 26 Question Id : 40503611781 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 सा अनिवार्य ऐमीनो अम्ल **नहीं** है?

Options :

40503642646. वैलीन

40503642647. ल्यूसीन

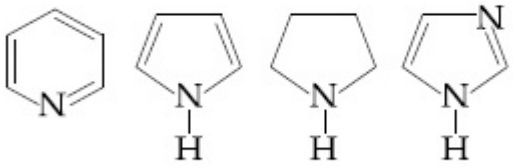
40503642648. लाइसीन

40503642649. टाइरोसीन

Question Number : 27 Question Id : 40503611782 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 basicity of the following compounds is :



(A) (B) (C) (D)

Options :

40503642650. (A) < (B) < (C) < (D)

40503642651. (B) < (A) < (D) < (C)

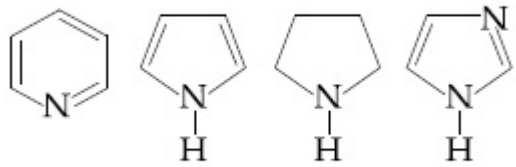
40503642652. (B) < (A) < (C) < (D)

40503642653. (D) < (A) < (B) < (C)

Question Number : 27 Question Id : 40503611782 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 यौगिकों की क्षारीयता का बढ़ता क्रम है :



(A) (B) (C) (D)

Options :

40503642650. (A) < (B) < (C) < (D)

40503642651. (B) < (A) < (D) < (C)

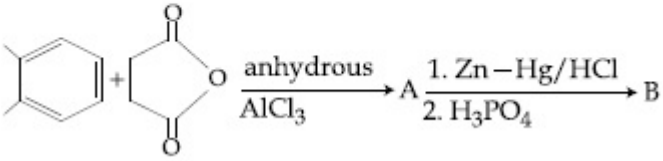
40503642652. (B) < (A) < (C) < (D)

40503642653. (D) < (A) < (B) < (C)

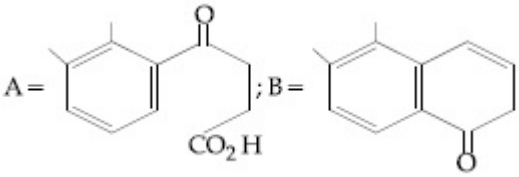
Question Number : 28 Question Id : 40503611783 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

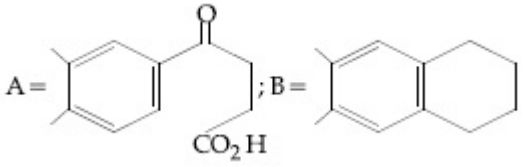
Correct Marks : 4 Wrong Marks : 1

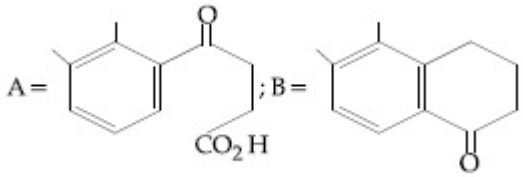
In the following reaction sequence the major products A and B are :

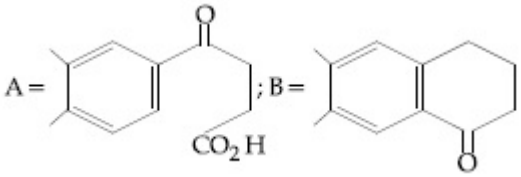


Options :

40503642654. 

40503642655. 

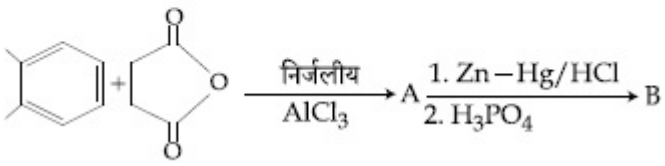
40503642656. 

40503642657. 

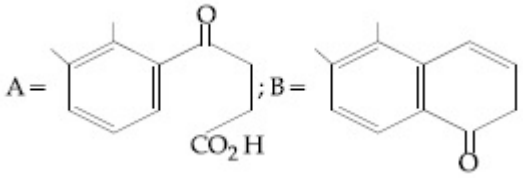
Question Number : 28 Question Id : 40503611783 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

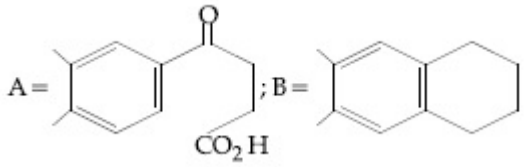
Correct Marks : 4 Wrong Marks : 1

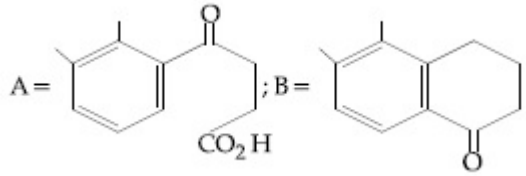
निम्नलिखित अभिक्रिया क्रम में मुख्य उत्पाद A तथा B हैं :

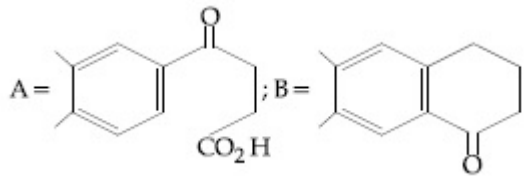


Options :

40503642654. 

40503642655. 

40503642656. 

40503642657. 

Question Number : 29 Question Id : 40503611784 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 most appropriate reagent for conversion of C_2H_5CN into $CH_3CH_2CH_2NH_2$ is :

Options :

40503642658. $LiAlH_4$

40503642659. $NaBH_4$

40503642660. $Na(CN)BH_3$

40503642661. CaH_2

Question Number : 29 Question Id : 40503611784 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

C_2H_5CN को $CH_3CH_2CH_2NH_2$ में परिवर्तित करने के लिए सबसे ज्यादा उपयुक्त अभिकर्मक है :

Options :

40503642658. $LiAlH_4$

40503642659. $NaBH_4$

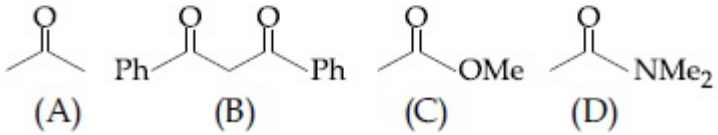
40503642660. $Na(CN)BH_3$

40503642661. CaH_2

Question Number : 30 Question Id : 40503611785 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 acidity of the α-hydrogen of the following compounds is :



(A) (B) (C) (D)

Options :

40503642662. (A) < (C) < (D) < (B)

40503642663. (D) < (C) < (A) < (B)

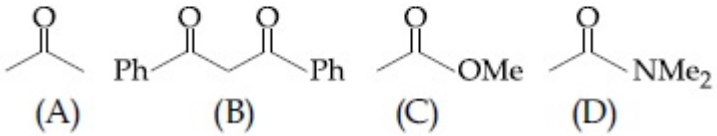
40503642664. (C) < (A) < (B) < (D)

40503642665. (B) < (C) < (A) < (D)

Question Number : 30 Question Id : 40503611785 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 यौगिकों के α-हाइड्रोजन के अम्लीयता का बढ़ता क्रम है :



(A) (B) (C) (D)

Options :

40503642662. (A) < (C) < (D) < (B)

40503642663. (D) < (C) < (A) < (B)

40503642664. (C) < (A) < (B) < (D)

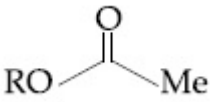
40503642665. (B) < (C) < (A) < (D)

Question Number : 31 Question Id : 40503611786 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

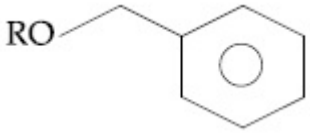
Correct Marks : 4 Wrong Marks : 1

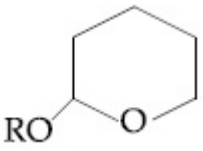
Which of the following derivatives of alcohols is unstable in an aqueous base ?

Options :

40503642666. 

40503642667. $RO-CMe_3$

40503642668. 

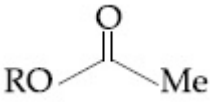
40503642669. 

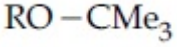
Question Number : 31 Question Id : 40503611786 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

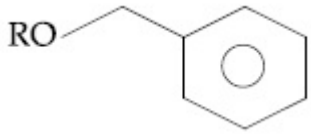
Correct Marks : 4 Wrong Marks : 1

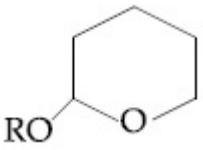
निम्नलिखित में से कौन सा ऐलकोहॉल का व्युत्पन्न एक जलीय क्षारक में अस्थिर है?

Options :

40503642666. 

40503642667. 

40503642668. 

40503642669. 

Question Number : 32 Question Id : 40503611787 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

If a person is suffering from the deficiency of nor-adrenaline, what kind of drug can be suggested ?

Options :

40503642670. Antihistamine

40503642671. Analgesic

40503642672. Anti-inflammatory

40503642673. Antidepressant

Question Number : 32 Question Id : 40503611787 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

यदि कोई व्यक्ति नॉर-ऐड्रीनेलिन की न्यूनता से पीड़ित है तो किस प्रकार की औषधि का सुझाव दिया जा सकता है?

Options :

40503642670. प्रतिहिस्टामिन

40503642671. पीड़ाहारी

40503642672. प्रतिशोतज (एन्टी-इनफ्लेमेटरी)

40503642673. प्रतिअवसादक

Question Number : 33 Question Id : 40503611788 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

In the sixth period, the orbitals that are filled are :

Options :

40503642674. 6s, 6p, 6d, 6f

40503642675. 6s, 5f, 6d, 6p

40503642676. 6s, 5d, 5f, 6p

40503642677. 6s, 4f, 5d, 6p

Question Number : 33 Question Id : 40503611788 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

छठें आवर्तक में, भरे जाने वाले कक्षक हैं :

Options :

40503642674. 6s, 6p, 6d, 6f

40503642675. 6s, 5f, 6d, 6p

40503642676. 6s, 5d, 5f, 6p

40503642677. 6s, 4f, 5d, 6p

Question Number : 34 Question Id : 40503611789 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 Ellingham diagram provides information about :

Options :

40503642678. the kinetics of the reduction process.

40503642679. the conditions of pH and potential under which a species is thermodynamically stable.

40503642680. the temperature dependence of the standard Gibbs energies of formation of some metal oxides.

40503642681. the pressure dependence of the standard electrode potentials of reduction reactions involved in the extraction of metals.

Question Number : 34 Question Id : 40503611789 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

एलिंगम आरेख जिस सूचना को प्राप्त कराता है वह होती है :

Options :

40503642678. अपचयन प्रक्रम की बलगतिकी।

40503642679. पीएच (pH) तथा विभव की शर्तें जिसमें की स्पीशीज़ ऊष्मागतिकीय रूप से स्थिर होती है।

40503642680. कुछ धातु ऑक्साइड़ों के सम्भवन में मानक गिब्ज ऊर्जा की ताप निर्भरता।

40503642681. धातु के निष्कर्षण में निहित अपचयन अभिक्रिया के मानक इलेक्ट्रोड विभव की दाब निर्भरता।

Question Number : 35 Question Id : 40503611790 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 equation that represents the water-gas shift reaction is :

Options :

40503642682. $C(s) + H_2O(g) \xrightarrow{1270\ K} CO(g) + H_2(g)$

40503642683. $CH_4(g) + H_2O(g) \xrightarrow[Ni]{1270\ K} CO(g) + 3\,H_2(g)$

40503642684. $CO(g) + H_2O(g) \xrightarrow[Catalyst]{673\ K} CO_2(g) + H_2(g)$

40503642685. $2\,C(s) + O_2(g) + 4\,N_2(g) \xrightarrow{1273\ K} 2\,CO(g) + 4\,N_2(g)$

Question Number : 35 Question Id : 40503611790 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 समीकरण जो वाटर-गैस शिफ्ट अभिक्रिया को निरूपित करता है, होगा :

Options :

40503642682. $C(s) + H_2O(g) \xrightarrow{1270\ K} CO(g) + H_2(g)$

40503642683. $CH_4(g) + H_2O(g) \xrightarrow[Ni]{1270\ K} CO(g) + 3\,H_2(g)$

40503642684. $CO(g) + H_2O(g) \xrightarrow[\text{उत्प्रेरक}]{673\ K} CO_2(g) + H_2(g)$

40503642685. $2\,C(s) + O_2(g) + 4\,N_2(g) \xrightarrow{1273\ K} 2\,CO(g) + 4\,N_2(g)$

Question Number : 36 Question Id : 40503611791 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 structure of PCl_5 in the solid state is :

Options :

40503642686. trigonal bipyramidal

40503642687. square pyramidal

40503642688. tetrahedral $[PCl_4]^+$ and octahedral $[PCl_6]^-$

40503642689. square planar $[PCl_4]^+$ and octahedral $[PCl_6]^-$

Question Number : 36 Question Id : 40503611791 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

ठोस प्रावस्था में PCl_5 की संरचना है :

Options :

40503642686. त्रिसमनतापक्ष द्विपिरामिडी

40503642687. वर्ग पिरामिडी

40503642688. चतुष्फलकीय $[PCl_4]^+$ तथा अष्टफलकीय $[PCl_6]^-$

40503642689. वर्ग समतली $[PCl_4]^+$ तथा अष्टफलकीय $[PCl_6]^-$

Question Number : 37 Question Id : 40503611792 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 correct electronic configuration and spin-only magnetic moment (BM) of $Gd^{3+}(Z=64)$, respectively, are :

Options :

40503642690. [Xe] $4f^7$ and 7.9

40503642691. [Xe] $4f^7$ and 8.9

40503642692. [Xe] $5f^7$ and 7.9

40503642693. [Xe] $5f^7$ and 8.9

Question Number : 37 Question Id : 40503611792 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

$Gd^{3+}(Z=64)$ के **सही** इलेक्ट्रॉनिक विन्यास तथा स्पिन-मात्र चुम्बकीय आघूर्ण (BM में) हैं :

Options :

40503642690. [Xe] $4f^7$ तथा 7.9

40503642691. [Xe] $4f^7$ तथा 8.9

40503642692. [Xe] $5f^7$ तथा 7.9

40503642693. [Xe] $5f^7$ तथा 8.9

Question Number : 38 Question Id : 40503611793 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 values of the crystal field stabilization energies for a high spin d^6 metal ion in octahedral and tetrahedral fields, respectively, are :

Options :

40503642694. $-0.4\ \Delta_o$ and $-0.6\ \Delta_t$

40503642695. $-2.4\ \Delta_o$ and $-0.6\ \Delta_t$

40503642696. $-1.6\ \Delta_o$ and $-0.4\ \Delta_t$

40503642697. $-0.4\ \Delta_o$ and $-0.27\ \Delta_t$

Question Number : 38 Question Id : 40503611793 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

अष्टफलकीय तथा चतुष्फलकीय क्षेत्रों में उच्च प्रचक्रण d^6 धातु आयन के लिए क्रिस्टल क्षेत्र स्थिरीकरण ऊर्जाओं का मान क्रमशः होगा :

Options :

40503642694. $-0.4\ \Delta_o$ तथा $-0.6\ \Delta_t$

40503642695. $-2.4\ \Delta_o$ तथा $-0.6\ \Delta_t$

40503642696. $-1.6\,\Delta_o$ तथा $-0.4\,\Delta_t$

40503642697. $-0.4\,\Delta_o$ तथा $-0.27\,\Delta_t$

Question Number : 39 Question Id : 40503611794 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 condition that indicates a polluted environment is :

Options :

40503642698. pH of rain water to be 5.6

40503642699. 0.03% of CO_2 in the atmosphere

40503642700. BOD value of 5 ppm

40503642701. eutrophication

Question Number : 39 Question Id : 40503611794 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 स्थिति जो दूषित पर्यावरण इंगित करती है, होगी :

Options :

40503642698. वर्षा के जल का pH 5.6 होना

40503642699. वायुमंडल में 0.03% CO_2 का होना

40503642700. BOD का मान 5 ppm होना

40503642701. सुपोषण

Question Number : 40 Question Id : 40503611795 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 diatomic molecule X_2 has a body-centred cubic (bcc) structure with a cell edge of 300 pm. The density of the molecule is 6.17 g cm^{-3}. The number of molecules present in 200 g of X_2 is :
(Avogadro constant $(N_A) = 6 \times 10^{23} mol^{-1}$)

Options :

40503642702. $2\ N_A$

40503642703. $4\ N_A$

40503642704. $40\ N_A$

40503642705. $8\ N_A$

Question Number : 40 Question Id : 40503611795 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 द्विपरमाणुक अणु X_2 की काय केन्द्रित घन (बीसीसी) संरचना है जिसकी कोष्टिका कोर 300 pm है। अणु का घनत्व 6.17 g cm^{-3} है। X_2 के 200 g में उपस्थित अणुओं की संख्या होगी :
(N_A, एवोगैद्रो स्थिरांक $= 6 \times 10^{23} mol^{-1}$)

Options :

40503642702. $2\ N_A$

40503642703. $4\ N_A$

40503642704. $40\ N_A$

40503642705. $8\ N_A$

Question Number : 41 Question Id : 40503611796 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 difference between the radii of 3^{rd} and 4^{th} orbits of Li^{2+} is ΔR_1. The difference between the radii of 3^{rd} and 4^{th} orbits of He^{+} is ΔR_2. Ratio $\Delta R_1 : \Delta R_2$ is :

Options :

40503642706. $3:8$

40503642707. $8:3$

40503642708. $3:2$

40503642709. $2:3$

Question Number : 41 Question Id : 40503611796 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

Li^{2+} के तीसरे तथा चौथे कक्षों की त्रिज्याओं का अंतर ΔR_1 है। He^{+} के तीसरे तथा चौथे कक्षों की त्रिज्याओं का अंतर ΔR_2 है। $\Delta R_1 : \Delta R_2$ अनुपात है :

Options :

40503642706. $3:8$

40503642707. $8:3$

40503642708. $3:2$

40503642709. $2:3$

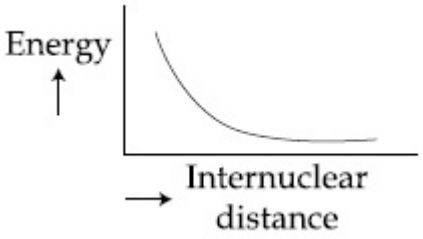
Question Number : 42 Question Id : 40503611797 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

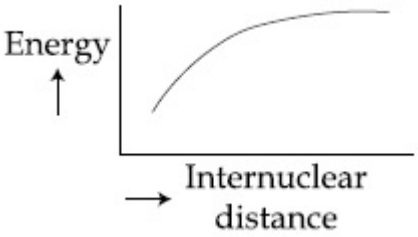
The potential energy curve for the H_2 molecule as a function of internuclear distance is :

Options :

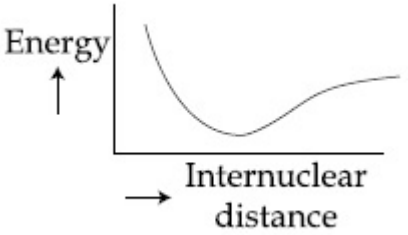
40503642710.



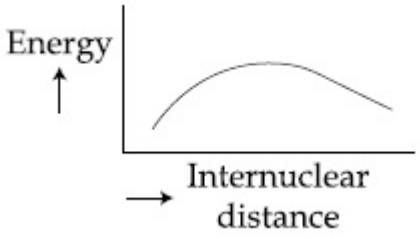
40503642711.



40503642712.



40503642713.

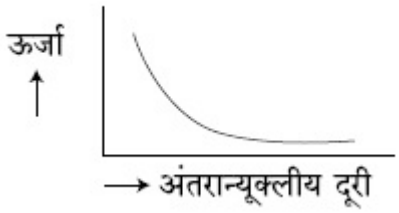


Question Number : 42 Question Id : 40503611797 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

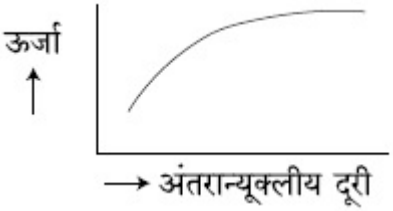
Correct Marks : 4 Wrong Marks : 1

अंतरान्यूक्लीय दूरी के फलन के रूप में H_2 अणु के लिए स्थितिज ऊर्जा का वक्र है :

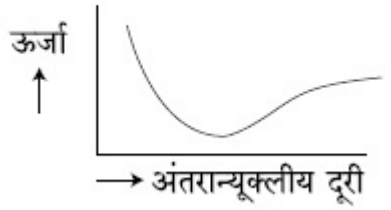
Options :



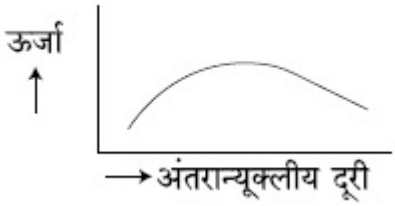
40503642710.



40503642711.



40503642712.



40503642713.

Question Number : 43 Question Id : 40503611798 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 :

$$N_2O_4(g) \rightleftharpoons 2NO_2(g)\ ;\ \Delta H^0 = +58\ kJ$$

For each of the following cases (a, b), the direction in which the equilibrium shifts is :

(a) Temperature is decreased.

(b) Pressure is increased by adding N_2 at constant T.

Options :

40503642714. (a) towards product, (b) towards reactant

40503642715. (a) towards reactant, (b) towards product

40503642716. (a) towards reactant, (b) no change

40503642717. (a) towards product, (b) no change

Question Number : 43 Question Id : 40503611798 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

$$N_2O_4(g) \rightleftharpoons 2NO_2(g)\ ;\ \Delta H^0 = +58\ kJ$$

निम्न प्रत्येक प्रकरण (a, b) में, वह दिशा जिसमें साम्य खिसक जायेगा, होगी :

(a) ताप घटाया जाता है।

(b) स्थिर T पर N_2 डालकर दाब बढ़ाया जाता है।

Options :

40503642714. (a) उत्पाद की तरफ (b) अभिकारक की तरफ

40503642715. (a) अभिकारक की तरफ (b) उत्पाद की तरफ

40503642716. (a) अभिकारक की तरफ (b) कोई परिवर्तन नहीं

40503642717. (a) उत्पाद की तरफ (b) कोई परिवर्तन नहीं

Question Number : 44 Question Id : 40503611799 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 flask contains a mixture of compounds A and B. Both compounds decompose by first-order kinetics. The half-lives for A and B are 300 s and 180 s, respectively. If the concentrations of A and B are equal initially, the time required for the concentration of A to be four times that of B (in s) is : (Use ln 2 = 0.693)

Options :

40503642718. 300

40503642719. 120

40503642720. 900

40503642721. 180

Question Number : 44 Question Id : 40503611799 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 तथा B यौगिकों का एक मिश्रण एक फ्लास्क में उपस्थित है। दोनों यौगिक प्रथम कोटि बल गतिकी द्वारा विघटित होते हैं । A तथा B की अर्द्ध आयु क्रमशः 300 s तथा 180 s हैं। यदि A तथा B की सान्द्रतायें प्रारम्भ में बराबर रही हों तो A की सान्द्रता को B की सान्द्रता के चार गुना होने में लगने वाला समय (सेकन्ड में) होगा : (ln 2 = 0.693)

Options :

40503642718. 300

40503642719. 120

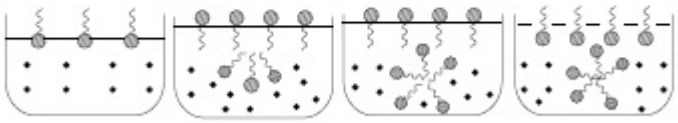
40503642720. 900

40503642721. 180

Question Number : 45 Question Id : 40503611800 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

Identify the correct molecular picture showing what happens at the critical micellar concentration (CMC) of an aqueous solution of a surfactant (● polar head; ﹏ non-polar tail ; . water).



(A) (B) (C) (D)

Options :

40503642722. (A)

40503642723. (B)

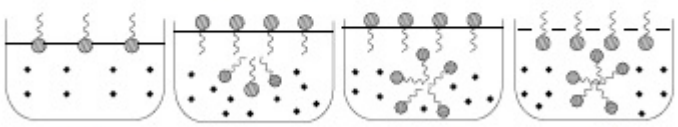
40503642724. (C)

40503642725. (D)

Question Number : 45 Question Id : 40503611800 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 पृष्ठ संक्रियक के एक जलीय विलयन के क्रान्तिक मिसेली सान्द्रता (CMC) पर क्या होता है इसको दर्शाने वाले **सही** आण्विक चित्र को पहचानिये। (● ध्रुवीय सिरा ; ﹏ अध्रुवीय पुंछ . जल)



(A) (B) (C) (D)

Options :

40503642722. (A)

40503642723. (B)

40503642724. (C)

40503642725. (D)

Sub-Section Number : 2
Sub-Section Id : 405036830
Question Shuffling Allowed : Yes

Question Number : 46 Question Id : 40503611801 Question Type : SA Display Question Number : Yes Correct Marks : 4 Wrong Marks : 0

The total number of coordination sites in ethylenediaminetetraacetate ($EDTA^{4-}$) 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 : 40503611801 Question Type : SA Display Question Number : Yes Correct Marks : 4 Wrong Marks : 0

एथिलीनडाइऐमीनटेट्राऐसीटेट ($EDTA^{4-}$) में उपसहसंयोजन स्थलों की कुल 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

Question Number : 47 Question Id : 40503611802 Question Type : SA Display Question Number : Yes Correct Marks : 4 Wrong Marks : 0

The minimum number of moles of O_2 required for complete combustion of 1 mole of propane and 2 moles of butane 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 : 47 Question Id : 40503611802 Question Type : SA Display Question Number : Yes Correct Marks : 4 Wrong Marks : 0

1 मोल प्रोपेन तथा 2 मोल ब्यूटेन के पूर्ण दहन के लिए आवश्यक O_2 की अल्पतम मोलों की संख्या 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 : 48 Question Id : 40503611803 Question Type : SA Display Question Number : Yes Correct Marks : 4 Wrong Marks : 0

A soft drink was bottled with a partial pressure of CO_2 of 3 bar over the liquid at room temperature. The partial pressure of CO_2 over the solution approaches a value of 30 bar when 44 g of CO_2 is dissolved in 1 kg of water at room temperature. The approximate pH of the soft drink is _____$\times 10^{-1}$.

(First dissociation constant of $H_2CO_3 = 4.0 \times 10^{-7}$; log 2 = 0.3; density of the soft drink = 1 g mL^{-1})

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 : 40503611803 Question Type : SA Display Question Number : Yes Correct Marks : 4 Wrong Marks : 0

कक्ष ताप पर एक सॉफ्ट ड्रिंक को CO_2 के 3 बार आंशिक दाब पर बोतल में द्रव के ऊपर भरा जाता है। कक्ष ताप पर जब 44 g CO_2 1 kg जल में घुलती है तो विलयन के ऊपर CO_2 का आंशिक दाब 30 बार पहुँच जाता है। सॉफ्ट ड्रिंक का pH लगभग होगा _____ $\times 10^{-1}$।

(H_2CO_3 का प्रथम वियोजन स्थिरांक $=4.0\times10^{-7}$; $\log 2 = 0.3$; सॉफ्ट ड्रिंक का घनत्व $= 1\ g\ mL^{-1}$)

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 : 40503611804 Question Type : SA Display Question Number : Yes Correct Marks : 4 Wrong Marks : 0

An oxidation-reduction reaction in which 3 electrons are transferred has a ΔG^0 of 17.37 kJ mol^{-1} at 25°C. The value of E^0_{cell} (in V) is _____ $\times 10^{-2}$.

(1 F = 96,500 C mol^{-1})

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 : 40503611804 Question Type : SA Display Question Number : Yes Correct Marks : 4 Wrong Marks : 0

एक अपचयोपचय अभिक्रिया जिसमें 3 इलेक्ट्रॉन स्थानांतरित होते हैं, का $25^{\circ}C$ पर ΔG^0 का मान $17.37\ kJ\ mol^{-1}$ है। E^0_{cell} का मान (V में) होगा _____ $\times 10^{-2}$।

$(1\ F = 96,500\ C\ mol^{-1})$

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 : 40503611805 Question Type : SA Display Question Number : Yes Correct Marks : 4 Wrong Marks : 0

The number of chiral carbon(s) present in peptide, Ile-Arg-Pro, 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 : 40503611805 Question Type : SA Display Question Number : Yes Correct Marks : 4 Wrong Marks : 0

पेप्टाइड, Ile-Arg-Pro, में उपस्थित काइरल कार्बनों 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

Mathematics

Section Id :	405036432
Section Number :	3
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 :	405036831
Question Shuffling Allowed :	Yes

Question Number : 51 Question Id : 40503611806 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 survey shows that 73% of the persons working in an office like coffee, whereas 65% like tea. If x denotes the percentage of them, who like both coffee and tea, then x cannot be :

Options :

40503642731. 38

40503642732. 54

40503642733. 63

40503642734. 36

Question Number : 51 Question Id : 40503611806 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