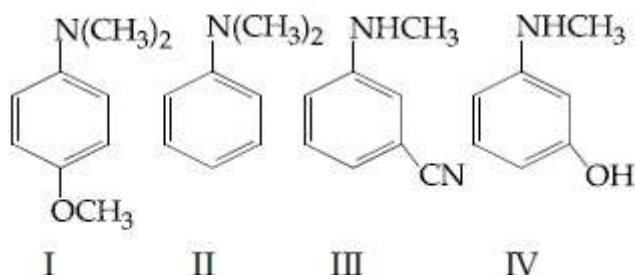


Section Marks :	100
Display Number Panel :	Yes
Group All Questions :	Yes
Mark As Answered Required? :	Yes
Sub-Section Number :	1
Sub-Section Id :	405036805
Question Shuffling Allowed :	Yes

Question Number : 26 Question Id : 40503611481 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  $pK_b$  values of the following compounds is :



Options :

40503641626. I < II < IV < III

40503641627. II < I < III < IV

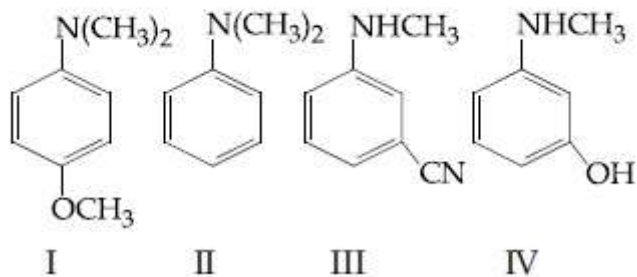
40503641628. I < II < III < IV

40503641629. II < IV < III < I

Question Number : 26 Question Id : 40503611481 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  $pK_b$  के मान का बढ़ता क्रम है :



Options :

40503641626. I < II < IV < III

40503641627. II < I < III < IV

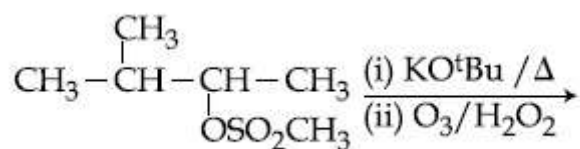
40503641628. I < II < III < IV

40503641629. II < IV < III < I

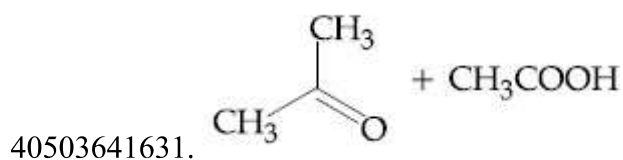
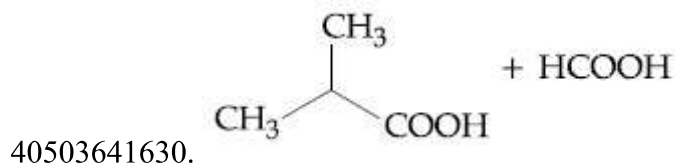
Question Number : 27 Question Id : 40503611482 Question Type : MCQ Option Shuffling : Yes  
 Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option  
 Orientation : Vertical

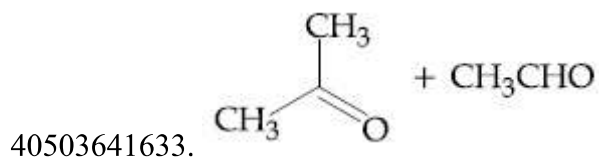
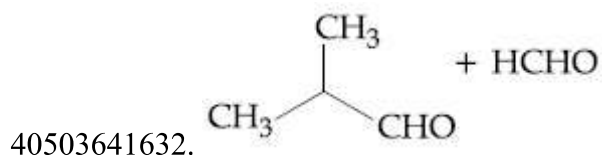
Correct Marks : 4 Wrong Marks : 1

The major products of the following reaction are :



Options :

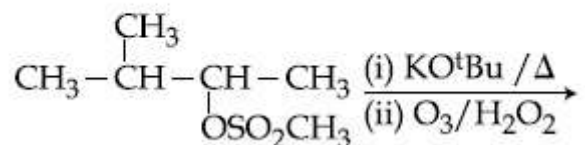




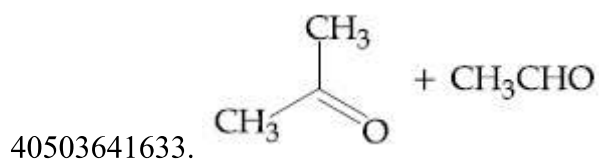
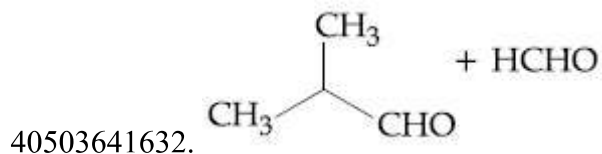
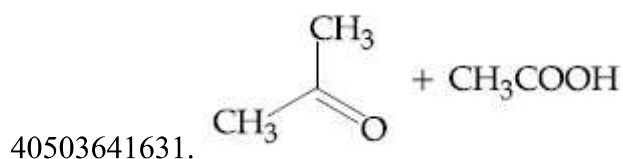
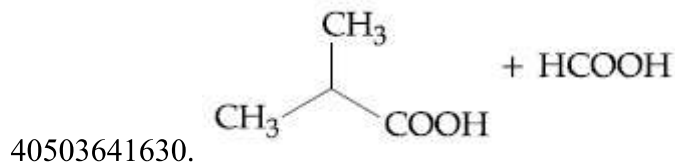
**Question Number : 27 Question Id : 40503611482 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical**

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

निम्न अभिक्रिया के मुख्य उत्पाद हैं :



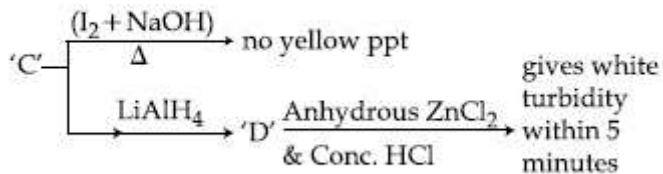
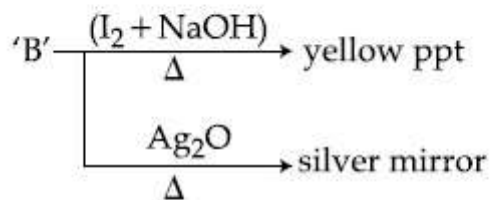
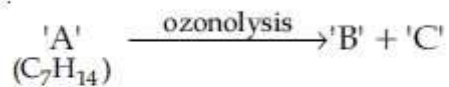
**Options :**



**Question Number : 28 Question Id : 40503611483 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical**

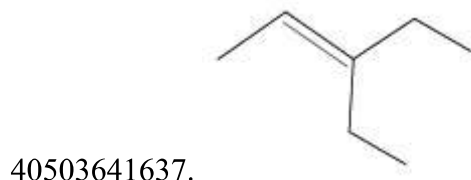
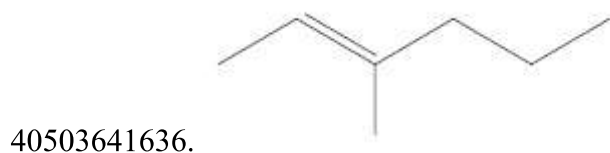
Correct Marks : 4 Wrong Marks : 1

Consider the following reactions :



'A' is :

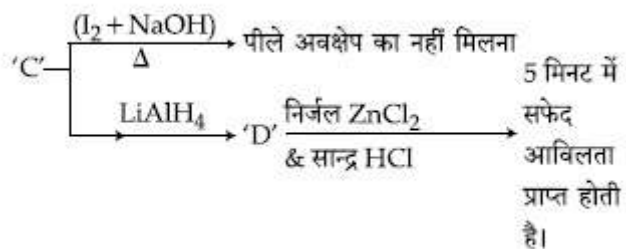
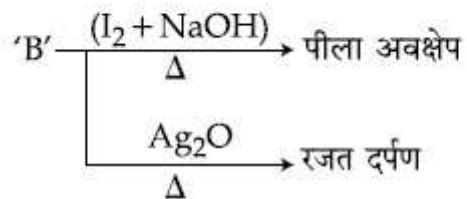
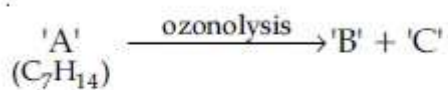
Options :



Question Number : 28 Question Id : 40503611483 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option  
Orientation : Vertical

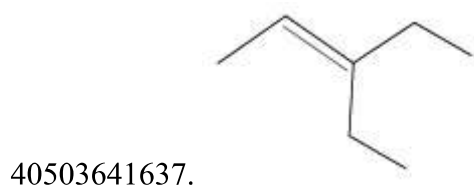
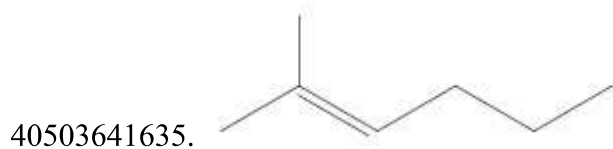
Correct Marks : 4 Wrong Marks : 1

निम्न अभिक्रियाओं पर विचार कीजिए :



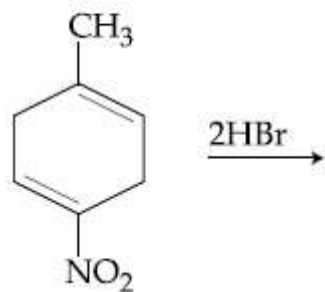
'A' है :

Options :

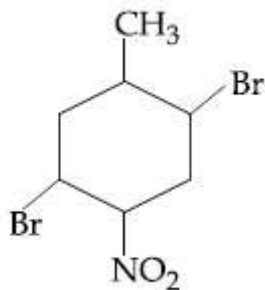


Question Number : 29 Question Id : 40503611484 Question Type : MCQ Option Shuffling : Yes  
 Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option  
 Orientation : Vertical  
 Correct Marks : 4 Wrong Marks : 1

The major product of the following reaction is:



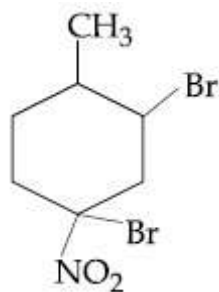
Options :



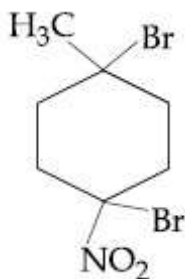
40503641638.



40503641639.



40503641640.

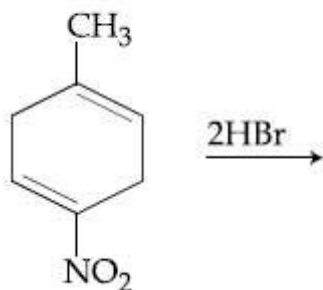


40503641641.

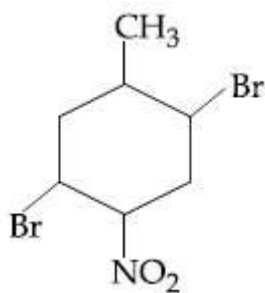
Question Number : 29 Question Id : 40503611484 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option  
Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

निम्न अभिक्रिया का मुख्य उत्पाद है :



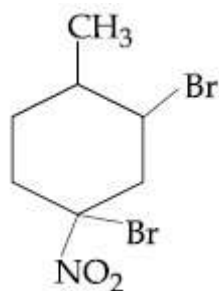
Options :



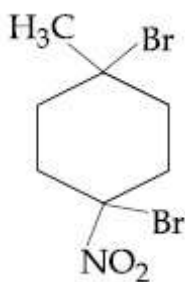
40503641638.



40503641639.



40503641640.



40503641641.

**Question Number : 30 Question Id : 40503611485 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 Assertion and Reason given below.

**Assertion (A) :** Ethene polymerized in the presence of Ziegler Natta Catalyst at high temperature and pressure is used to make buckets and dustbins.

**Reason (R) :** High density polymers are closely packed and are chemically inert.

Choose the correct answer from the following :

**Options :**

40503641642. Both (A) and (R) are correct and (R) is the correct explanation of (A).

40503641643. Both (A) and (R) are correct but (R) is not the correct explanation of (A).

40503641644. (A) is correct but (R) is wrong.

40503641645. (A) and (R) both are wrong.

**Question Number : 30 Question Id : 40503611485 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**



नीचे दिये गये कथन तथा कारण पर विचार कीजिए।

**कथन (A) :** उच्च ताप तथा दाब पर जिगलर-नाटा उत्प्रेरक की उपस्थिति में एथीन के बहुलकीकृत होने में प्राप्त पालीमर का उपयोग बकेट (बॉल्टी) तथा डस्टबिन के बनाने में होता है।

**कारण (R) :** उच्च घनत्व वाले पालीमर (बहुलक) संवृतता से संकुलित होते हैं तथा रासायनिक दृष्टि से उदासीन होते हैं।

निम्न में से सही उत्तर चुनिये :

**Options :**

40503641642. (A) तथा (R) दोनों सही हैं तथा (R), (A) की सही व्याख्या है।

40503641643. (A) तथा (R) दोनों ही सही हैं परन्तु (R), (A) की सही व्याख्या नहीं है।

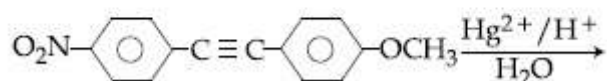
40503641644. (A) सही है परन्तु (R) गलत है।

40503641645. (A) तथा (R) दोनों ही गलत हैं।

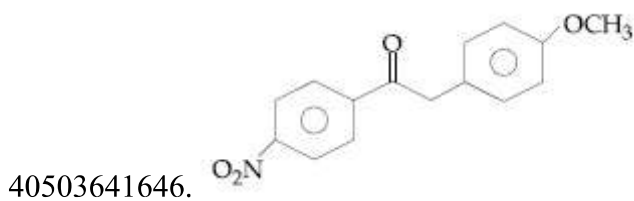
**Question Number : 31 Question Id : 40503611486 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical**

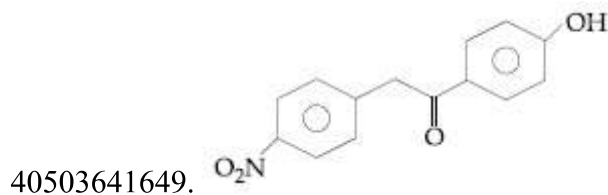
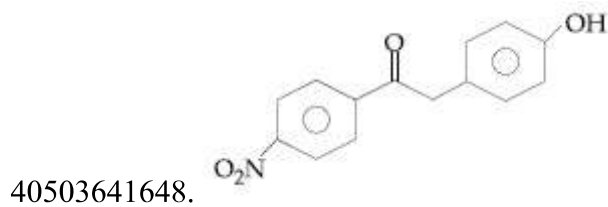
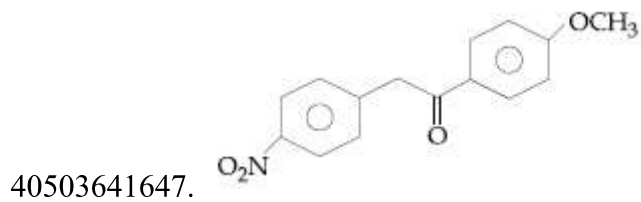
**Correct Marks : 4 Wrong Marks : 1**

The major product obtained from the following reaction is :



**Options :**

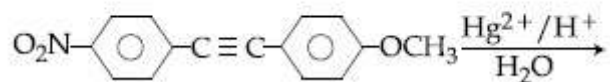




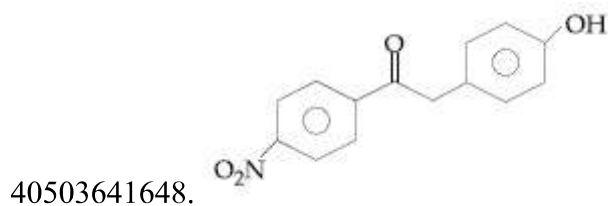
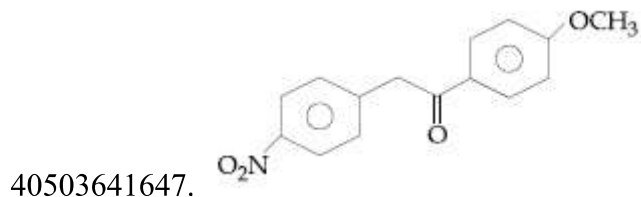
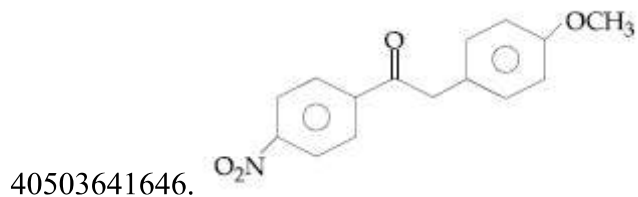
**Question Number : 31 Question Id : 40503611486 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical**

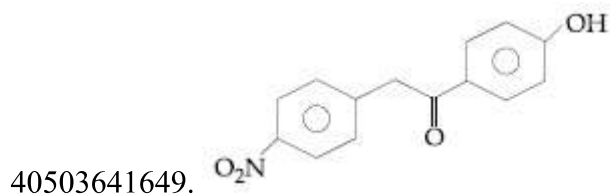
**Correct Marks : 4 Wrong Marks : 1**

निम्न अभिक्रिया से प्राप्त होने वाला मुख्य उत्पाद है :



**Options :**





**Question Number : 32 Question Id : 40503611487 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 compounds shows geometrical isomerism ?

**Options :**

40503641650. 2-methylpent-1-ene

40503641651. 2-methylpent-2-ene

40503641652. 4-methylpent-1-ene

40503641653. 4-methylpent-2-ene

**Question Number : 32 Question Id : 40503611487 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 यौगिक ज्यामितीय समावयवता प्रदर्शित करता है ?

**Options :**

40503641650. 2-मेथिलपेन्ट-1-ईन

40503641651. 2-मेथिलपेन्ट-2-ईन

40503641652. 4-मेथिलपेन्ट-1-ईन

40503641653. 4-मेथिलपेन्ट-2-ईन

**Question Number : 33 Question Id : 40503611488 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 set that contains atomic numbers of only transition elements, is :

**Options :**

40503641654. 21, 25, 42, 72

40503641655. 9, 17, 34, 38

40503641656. 37, 42, 50, 64

40503641657. 21, 32, 53, 64

**Question Number : 33 Question Id : 40503611488 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 सेट जिसमें मात्र संक्रमण तत्वों की परमाणु संख्याओं का समावेश है, होगा :

**Options :**

40503641654. 21, 25, 42, 72

40503641655. 9, 17, 34, 38

40503641656. 37, 42, 50, 64

40503641657. 21, 32, 53, 64

**Question Number : 34 Question Id : 40503611489 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical**

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

The INCORRECT statement is :

**Options :**

40503641658. bronze is an alloy of copper and tin.

40503641659. german silver is an alloy of zinc, copper and nickel.

40503641660. cast iron is used to manufacture wrought iron.

40503641661. brass is an alloy of copper and nickel.

**Question Number : 34 Question Id : 40503611489 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1**

गलत कथन है :

**Options :**

40503641658. ब्रांज, कॉपर तथा टिन की एक मिश्रातु है।

40503641659. जर्मन सिल्वर, जिंक, कॉपर तथा निकल का एक मिश्रातु है।

40503641660. राट आयरन (पिटवाँ लोहा) के निर्माण में कास्ट आयरन (ढलवाँ लोहा) प्रयुक्त होता है।

40503641661. ब्रास, कॉपर तथा निकल का एक मिश्रातु है।

**Question Number : 35 Question Id : 40503611490 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**

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

Among the sulphates of alkaline earth metals, the solubilities of  $\text{BeSO}_4$  and  $\text{MgSO}_4$  in water, respectively, are :

**Options :**

40503641662. high and high

40503641663. poor and high

40503641664. high and poor

40503641665. poor and poor

**Question Number : 35 Question Id : 40503611490 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**

क्षारीय मृदा धातुओं के सल्फेट के बीच, जल में  $\text{BeSO}_4$  तथा  $\text{MgSO}_4$  की घुलनशीलता क्रमशः हैं :

**Options :**

40503641662. उच्च तथा उच्च

40503641663. अल्प तथा उच्च

40503641664. उच्च तथा अल्प

40503641665. अल्प तथा अल्प

**Question Number : 36 Question Id : 40503611491 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 statement with respect to dinitrogen is :

**Options :**

40503641666. liquid dinitrogen is not used in cryosurgery.

40503641667. it can be used as an inert diluent for reactive chemicals.

40503641668. it can combine with dioxygen at  $25^\circ\text{C}$ .

40503641669.  $\text{N}_2$  is paramagnetic in nature.

Question Number : 36 Question Id : 40503611491 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

डाइनाइट्रोजन के संदर्भ में सही कथन होगा :

Options :

40503641666. द्रव डाइनाइट्रोजन का प्रयोग क्रायोसर्जरी  
(निम्नताप सर्जरी) में नहीं होता है।

40503641667. यह सक्रिय रसायनों के लिए एक निष्क्रिय  
तनुकारी के रूप में प्रयुक्त किया जा सकता है।

40503641668. यह 25 °C पर डाइऑक्सीजन के साथ संयोग  
कर सकता है।

40503641669. N<sub>2</sub> की प्रकृति अनुचुम्बकीय है।

Question Number : 37 Question Id : 40503611492 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 lanthanoid that does NOT show +4  
oxidation state is :

Options :

40503641670. Dy

40503641671. Eu

40503641672. Tb

40503641673. Ce

Question Number : 37 Question Id : 40503611492 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 लैन्थनवायड जो +4 आक्सीकरण अवस्था नहीं प्रदर्शित करता है, होगा :

Options :

40503641670. Dy

40503641671. Eu

40503641672. Tb

40503641673. Ce

Question Number : 38 Question Id : 40503611493 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 species that has a spin-only magnetic moment of 5.9 BM, is :

( $T_d$  = tetrahedral)

Options :

40503641674.  $Ni(CO)_4 (T_d)$

40503641675.  $[MnBr_4]^{2-} (T_d)$

40503641676.  $[NiCl_4]^{2-} (T_d)$

40503641677.  $[Ni(CN)_4]^{2-}$  (square planar)

Question Number : 38 Question Id : 40503611493 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 स्पीशीज़ जिसमें 5.9 BM का स्पिन मात्र चुम्बकीय आघूर्ण है, होगी :

[ $T_d$  = (टेट्राहेड्रल) चतुष्फलकीय]

Options :

40503641674.  $Ni(CO)_4 (T_d)$



40503641675.  $[\text{MnBr}_4]^{2-}$  ( $T_d$ )

40503641676.  $[\text{NiCl}_4]^{2-}$  ( $T_d$ )

40503641677.  $[\text{Ni}(\text{CN})_4]^{2-}$  (वर्ग समतली)

**Question Number : 39 Question Id : 40503611494 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 presence of soluble fluoride ion upto 1 ppm concentration in drinking water, is :

**Options :**

40503641678. safe for teeth

40503641679. harmful for teeth

40503641680. harmful to bones

40503641681. harmful to skin

**Question Number : 39 Question Id : 40503611494 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**

पेय जल में 1 ppm सान्द्रता के घुलनशील फ्लोराइड आयन की उपस्थिति होगी :

**Options :**

40503641678. दाँतों के लिए सुरक्षित

40503641679. दाँतों के लिए हानिकारक

40503641680. हड्डियों के लिए हानिकारक

40503641681. त्वचा के लिए हानिकारक

Question Number : 40 Question Id : 40503611495 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 solution of two components containing  $n_1$  moles of the 1<sup>st</sup> component and  $n_2$  moles of the 2<sup>nd</sup> component is prepared.  $M_1$  and  $M_2$  are the molecular weights of component 1 and 2 respectively. If  $d$  is the density of the solution in  $\text{g mL}^{-1}$ ,  $C_2$  is the molarity and  $x_2$  is the mole fraction of the 2<sup>nd</sup> component, then  $C_2$  can be expressed as :

Options :

40503641682. 
$$C_2 = \frac{1000 d x_2}{M_1 + x_2 (M_2 - M_1)}$$

40503641683. 
$$C_2 = \frac{d x_2}{M_2 + x_2 (M_2 - M_1)}$$

40503641684. 
$$C_2 = \frac{d x_1}{M_2 + x_2 (M_2 - M_1)}$$

40503641685. 
$$C_2 = \frac{1000 x_2}{M_1 + x_2 (M_2 - M_1)}$$

Question Number : 40 Question Id : 40503611495 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

दो अवयवों का एक विलयन है जो  $n_1$  मोल प्रथम अवयव तथा  $n_2$  मोल द्वितीय अवयव को मिलाकर तैयार किया गया है। अवयव 1 तथा अवयव 2 के अणुभार क्रमशः  $M_1$  तथा  $M_2$  हैं। यदि विलयन का घनत्व ( $\text{g mL}^{-1}$  में)  $d$  है तथा द्वितीय अवयव की मोलरता  $C_2$  एवं मोल प्रभांश  $x_2$  हो तो  $C_2$  को इस प्रकार अभिव्यक्त कर सकते हैं :

Options :

40503641682. 
$$C_2 = \frac{1000 d x_2}{M_1 + x_2 (M_2 - M_1)}$$

40503641683. 
$$C_2 = \frac{d x_2}{M_2 + x_2 (M_2 - M_1)}$$

40503641684. 
$$C_2 = \frac{d x_1}{M_2 + x_2 (M_2 - M_1)}$$

40503641685. 
$$C_2 = \frac{1000 x_2}{M_1 + x_2 (M_2 - M_1)}$$

**Question Number : 41 Question Id : 40503611496 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 variation of equilibrium constant with temperature is given below :

Temperature                      Equilibrium Constant

$T_1 = 25^\circ\text{C}$                        $K_1 = 10$

$T_2 = 100^\circ\text{C}$                        $K_2 = 100$

The values of  $\Delta H^\circ$ ,  $\Delta G^\circ$  at  $T_1$  and  $\Delta G^\circ$  at  $T_2$  (in  $\text{kJ mol}^{-1}$ ) respectively, are close to

[use  $R = 8.314 \text{ J K}^{-1} \text{ mol}^{-1}$ ]

Options :

40503641686. 0.64,  $-7.14$  and  $-5.71$

40503641687. 28.4,  $-5.71$  and  $-14.29$

40503641688. 28.4,  $-7.14$  and  $-5.71$

40503641689. 0.64,  $-5.71$  and  $-14.29$

**Question Number : 41 Question Id : 40503611496 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

ताप के साथ साम्य स्थिरांक का परिवर्तन नीचे दिया गया है :

ताप साम्य स्थिरांक

$$T_1 = 25\text{ }^\circ\text{C} \quad K_1 = 10$$

$$T_2 = 100\text{ }^\circ\text{C} \quad K_2 = 100$$

$\Delta H^\circ$ ,  $T_1$  पर  $\Delta G^\circ$  तथा  $T_2$  पर  $\Delta G^\circ$  के मान ( $\text{kJ mol}^{-1}$  में) क्रमशः निम्न के सन्निकट होंगे :

$$[R = 8.314\text{ J K}^{-1}\text{ mol}^{-1}]$$

Options :

40503641686. 0.64, -7.14 तथा -5.71

40503641687. 28.4, -5.71 तथा -14.29

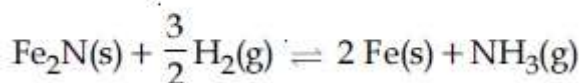
40503641688. 28.4, -7.14 तथा -5.71

40503641689. 0.64, -5.71 तथा -14.29

Question Number : 42 Question Id : 40503611497 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

For the reaction



Options :

40503641690.  $K_c = K_p (RT)^{-1/2}$

40503641691.  $K_c = K_p (RT)^{1/2}$

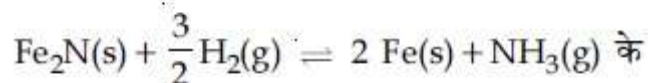
40503641692.  $K_c = K_p (RT)$

40503641693.  $K_c = K_p (RT)^{3/2}$

Question Number : 42 Question Id : 40503611497 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option  
Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

अभिक्रिया,



लिए :

Options :

40503641690.  $K_c = K_p (RT)^{-1/2}$

40503641691.  $K_c = K_p (RT)^{1/2}$

40503641692.  $K_c = K_p (RT)$

40503641693.  $K_c = K_p (RT)^{3/2}$

Question Number : 43 Question Id : 40503611498 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

Arrange the following solutions in the decreasing order of pOH :

(A) 0.01 M HCl

(B) 0.01 M NaOH

(C) 0.01 M CH<sub>3</sub>COONa

(D) 0.01 M NaCl

Options :

40503641694. (B) > (D) > (C) > (A)

40503641695. (B) > (C) > (D) > (A)

40503641696. (A) > (C) > (D) > (B)

40503641697. (A) > (D) > (C) > (B)

**Question Number : 43 Question Id : 40503611498 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 विलयनों को pOH के घटते क्रम में व्यवस्थित कीजिए।

(A) 0.01 M HCl

(B) 0.01 M NaOH

(C) 0.01 M CH<sub>3</sub>COONa

(D) 0.01 M NaCl

**Options :**

40503641694. (B) > (D) > (C) > (A)

40503641695. (B) > (C) > (D) > (A)

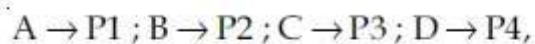
40503641696. (A) > (C) > (D) > (B)

40503641697. (A) > (D) > (C) > (B)

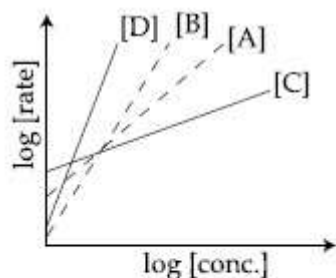
**Question Number : 44 Question Id : 40503611499 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical**

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

Consider the following reactions



The order of the above reactions are a, b, c, and d, respectively. The following graph is obtained when  $\log[\text{rate}]$  vs.  $\log[\text{conc.}]$  are plotted :



Among the following, the correct sequence for the order of the reactions is :

Options :

40503641698.  $c > a > b > d$

40503641699.  $d > a > b > c$

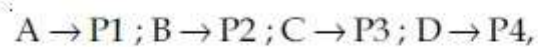
40503641700.  $d > b > a > c$

40503641701.  $a > b > c > d$

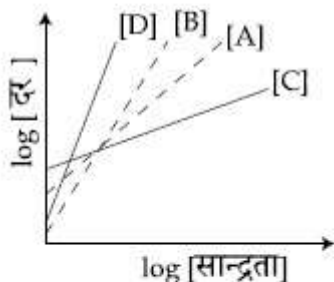
Question Number : 44 Question Id : 40503611499 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option  
Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

निम्न अभिक्रिया पर विचार कीजिए :



उपरोक्त अभिक्रियाओं की कोटि क्रमशः a, b, c तथा d हैं।  $\log[\text{दर}]$  विरुद्ध  $\log[\text{सान्द्रता}]$  के प्लॉट से निम्न ग्राफ प्राप्त होता है :



निम्न में से अभिक्रियाओं की कोटि के लिए सही क्रम होगा :

**Options :**

40503641698.  $c > a > b > d$

40503641699.  $d > a > b > c$

40503641700.  $d > b > a > c$

40503641701.  $a > b > c > d$

**Question Number : 45 Question Id : 40503611500 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**

Kraft temperature is the temperature :

**Options :**

40503641702. below which the formation of micelles takes place.

40503641703. above which the formation of micelles takes place.

40503641704. below which the aqueous solution of detergents starts freezing.



above which the aqueous solution of  
40503641705. detergents starts boiling.

**Question Number : 45 Question Id : 40503611500 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**

क्राफ्ट ताप वह ताप है :

**Options :**

40503641702. जिसके नीचे मिसेल का निर्माण होता है।

40503641703. जिसके ऊपर मिसेल का निर्माण होता है।

40503641704. जिसके नीचे डिटरजेंट के जलीय विलयन का  
हिमन (जमना) प्रारंभ हो जाता है।

40503641705. जिसके ऊपर डिटरजेंट के जलीय विलयन का  
उबलना प्रारंभ हो जाता है।

**Sub-Section Number :**

2

**Sub-Section Id :**

405036806

**Question Shuffling Allowed :**

Yes

**Question Number : 46 Question Id : 40503611501 Question Type : SA Display Question Number : Yes**  
**Correct Marks : 4 Wrong Marks : 0**

In an estimation of bromine by Carius method, 1.6 g of an organic compound gave 1.88 g of AgBr. The mass percentage of bromine in the compound is \_\_\_\_\_.

(Atomic mass, Ag = 108, Br = 80 g mol<sup>-1</sup>)

**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 : 40503611501 Question Type : SA Display Question Number : Yes**  
**Correct Marks : 4 Wrong Marks : 0**

कैरियस विधि द्वारा ब्रोमीन के एक आकलन में एक कार्बनिक यौगिक का 1.6 g, AgBr का 1.88 g देता है। यौगिक में ब्रोमीन की संहति प्रतिशतता है \_\_\_\_\_.

(Atomic mass, Ag = 108, Br = 80 g mol<sup>-1</sup>)

**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 : 40503611502 Question Type : SA Display Question Number : Yes**  
**Correct Marks : 4 Wrong Marks : 0**

The number of Cl=O bonds in perchloric acid is, "\_\_\_\_\_."

**Response Type : Numeric**

**Evaluation Required For SA : Yes**

**Show Word Count : Yes**

**Answers Type : Range**

**Text Areas : PlainText**

**Possible Answers :**

5 to 5.002

**Question Number : 47 Question Id : 40503611502 Question Type : SA Display Question Number : Yes**  
**Correct Marks : 4 Wrong Marks : 0**

परक्लोरिक एसिड में Cl=O आबन्धों 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

**Question Number : 48 Question Id : 40503611503 Question Type : SA Display Question Number : Yes  
Correct Marks : 4 Wrong Marks : 0**

A spherical balloon of radius 3 cm containing helium gas has a pressure of  $48 \times 10^{-3}$  bar. At the same temperature, the pressure, of a spherical balloon of radius 12 cm containing the same amount of gas will be \_\_\_\_\_  $\times 10^{-6}$  bar.

**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 : 40503611503 Question Type : SA Display Question Number : Yes  
Correct Marks : 4 Wrong Marks : 0**

3 cm त्रिज्या के एक गोलीय गुब्बारे में  $48 \times 10^{-3}$  bar दाब पर हीलियम गैस भरी है। उसी ताप पर, 12 cm त्रिज्या के गोलीय गुब्बारे में उसी मात्रा की भरी हुई गैस का दाब (millibar में) होगा \_\_\_\_\_  $\times 10^{-6}$  bar.

**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 : 40503611504 Question Type : SA Display Question Number : Yes  
Correct Marks : 4 Wrong Marks : 0**

The elevation of boiling point of 0.10 m aqueous  $\text{CrCl}_3 \cdot x\text{NH}_3$  solution is two times that of 0.05 m aqueous  $\text{CaCl}_2$  solution. The value of  $x$  is \_\_\_\_\_.

[Assume 100% ionisation of the complex and  $\text{CaCl}_2$ , coordination number of Cr as 6, and that all  $\text{NH}_3$  molecules are present inside the coordination sphere]

**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 :** 40503611504 **Question Type :** SA Display **Question Number :** Yes

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

0.10 m के जलीय  $\text{CrCl}_3 \cdot x\text{NH}_3$  का क्वथनांक उन्नयन, 0.05 m के जलीय  $\text{CaCl}_2$  विलयन के क्वथनांक उन्नयन का दोगुना है।  $x$  का मान है \_\_\_\_\_.

(संकर तथा  $\text{CaCl}_2$  के आयनन को 100%, Cr की समन्वय संख्या 6 तथा  $\text{NH}_3$  के सभी अणु समन्वय गोले के अंदर उपस्थित होने को मानें)

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Range

**Text Areas :** PlainText

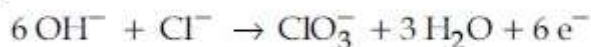
**Possible Answers :**

5 to 5.002

**Question Number :** 50 **Question Id :** 40503611505 **Question Type :** SA Display **Question Number :** Yes

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

Potassium chlorate is prepared by the electrolysis of KCl in basic solution



If only 60% of the current is utilized in the reaction, the time (rounded to the nearest hour) required to produce 10 g of  $\text{KClO}_3$  using a current of 2 A is \_\_\_\_\_.

(Given :  $F = 96,500 \text{ C mol}^{-1}$ ; molar mass of  $\text{KClO}_3 = 122 \text{ g mol}^{-1}$ )

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Range

**Text Areas :** PlainText

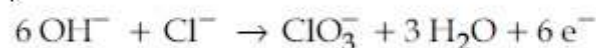
**Possible Answers :**

5 to 5.002

**Question Number : 50 Question Id : 40503611505 Question Type : SA Display Question Number : Yes**

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

क्षारीय विलयन में KCl के विद्युत अपघटन द्वारा पोटेशियम क्लोरेट को तैयार किया जाता है।



अभिक्रिया में मात्र 60% विद्युत धारा प्रयुक्त होती है। 2 A के विद्युत धारा का उपयोग करके 10 g  $\text{KClO}_3$  को बनाने के लिए कितना समय (घंटों में) आवश्यक होगा \_\_\_\_\_.

(दिया गया है :  $F = 96,500 \text{ C mol}^{-1}$ ;  $\text{KClO}_3$  का मोलर द्रव्यमान =  $122 \text{ g mol}^{-1}$ )

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Range

**Text Areas :** PlainText

**Possible Answers :**

5 to 5.002