JEE MAINS 09 APRIL 2019 - PAPER 1 SHIFT 2

CHEMISTRY

MEMORY BASED

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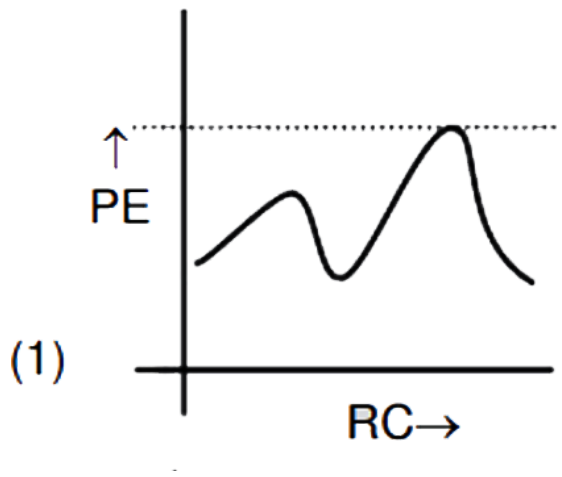
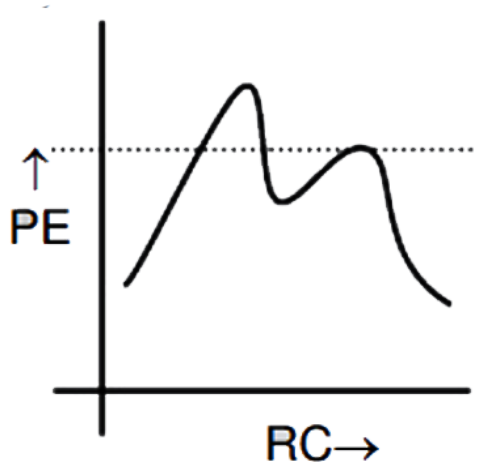
Ques No.	Question
1 - 9469485	**JEE MAINS 09 APRIL 2019 - PAPER 1 SHIFT 2 - MEMORY BASED - CHEMISTRY** Which of the following is Hinsberb reagent ? (A) $C_6H_5SO_2CH_3$ (B) $C_6H_5SO_2Cl$ (C) $SnCl_2$ (D) $CoCl_2$ **CORRECT OPTION: B** Watch Free Video Solution on Doubtnut
2 - 9469486	**JEE MAINS 09 APRIL 2019 - PAPER 1 SHIFT 2 - MEMORY BASED - CHEMISTRY**

Which of the following is potential energy diagram for S_N1 reaction?

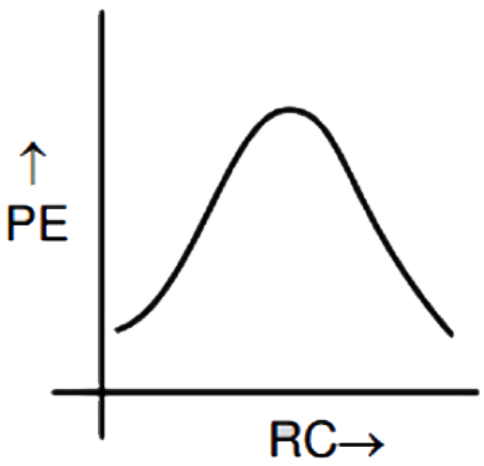
(A) (1)



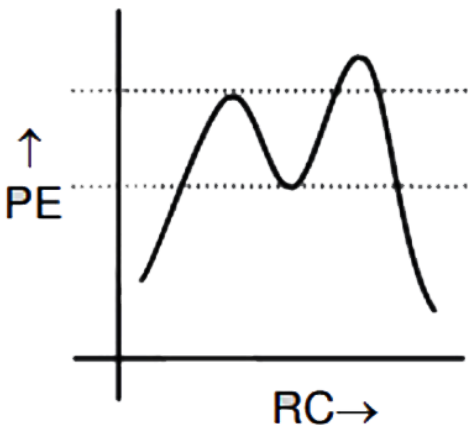
(B) (2)



(C) (3)



(D) (4)



CORRECT OPTION: B

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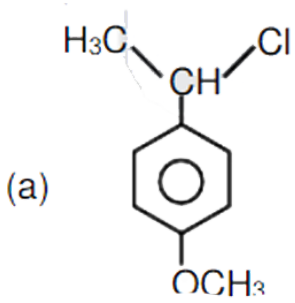
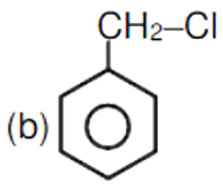
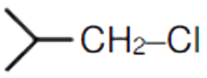
Reactivity order of S_N1 reaction for the following compounds is

(a) 

(b) 

(c) $CH_3–Cl$

(d) 

(A) $a > b > c > d$

(B) $a > d > c > b$

(C) $c > d > b > a$

(D) $a > b > d > c$

CORRECT OPTION: D

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The atmosphere between the heights 10 to 50 kilometer above the Sea level is:

(A) Troposphere

(B) Stratophere

(C) Mesosphere

(D) Ionosphere

CORRECT OPTION: B

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Noradrenaline is one of the example of :

(A) Anti-depressant

(B) Anti-Histamine

(C) Neurotransmitter

(D) Antacid

CORRECT OPTION: C

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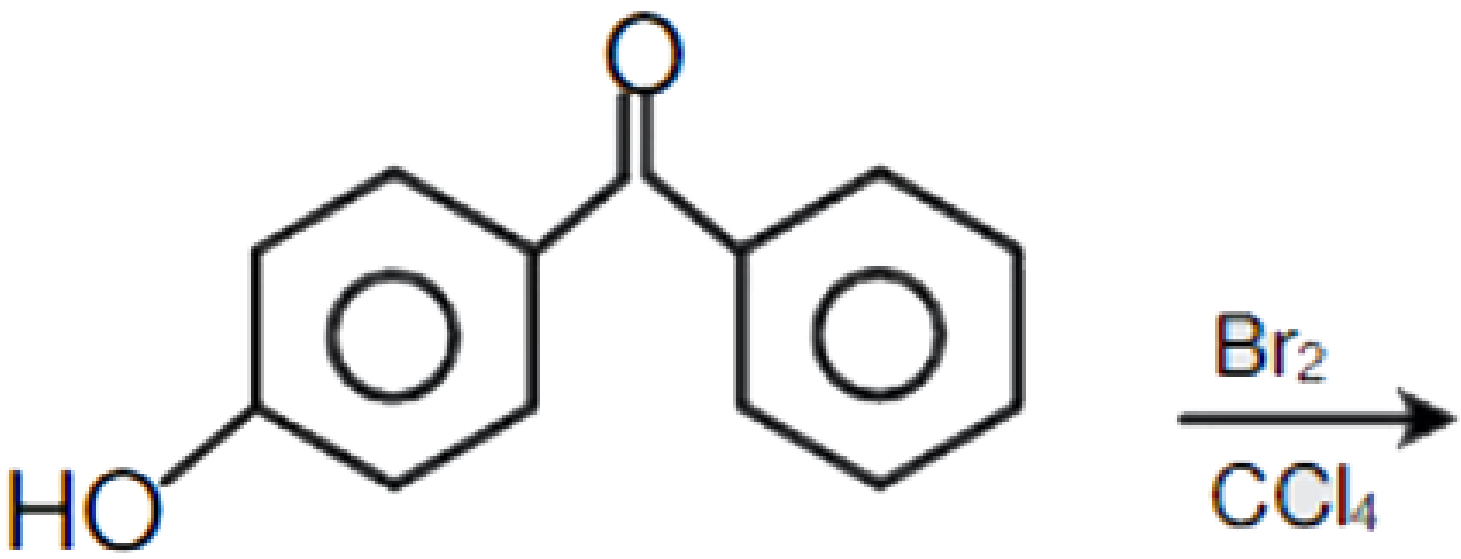
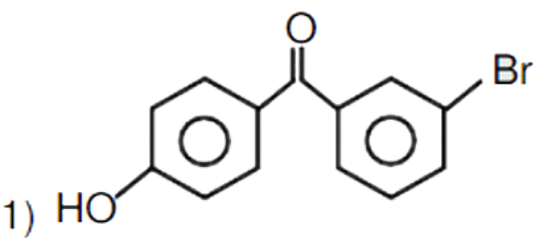
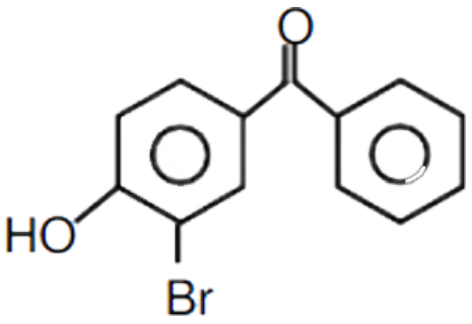
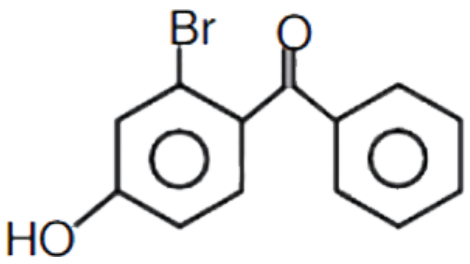
The product of following reaction

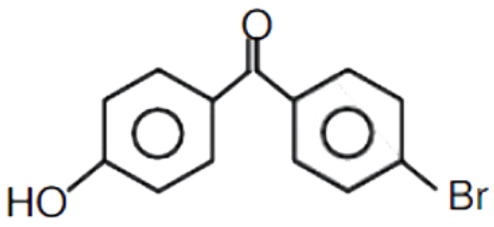


(A) (1)



(B) (2) 

(C) (3) 

(D) (4) 

CORRECT OPTION: B

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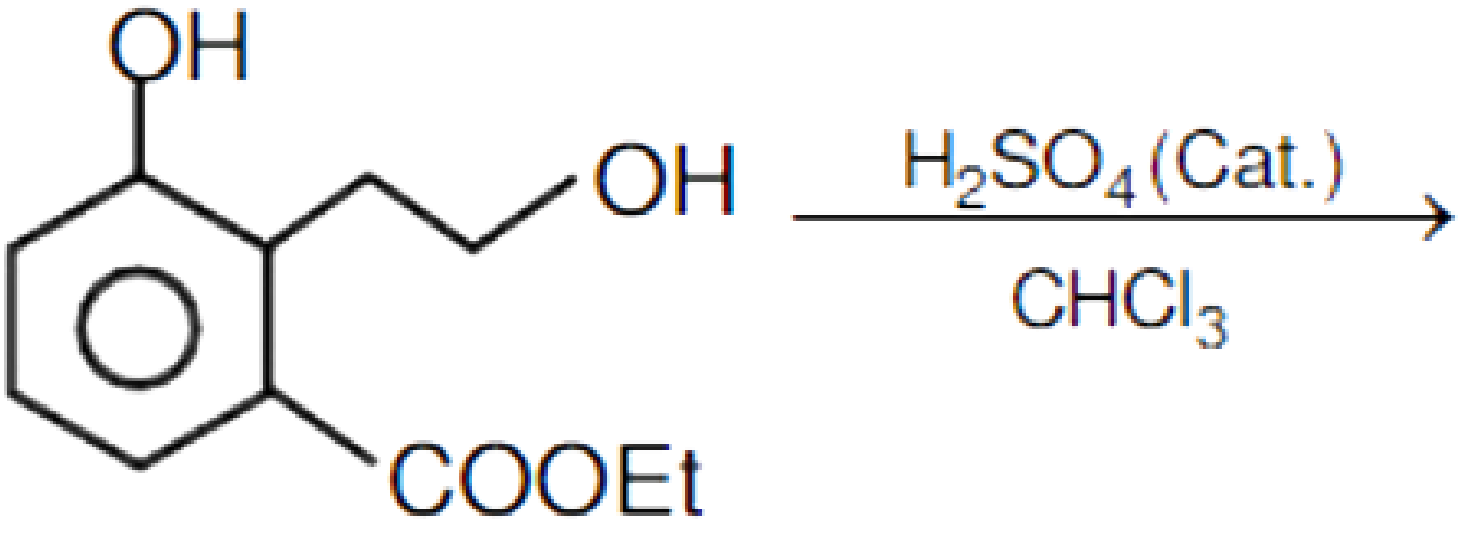
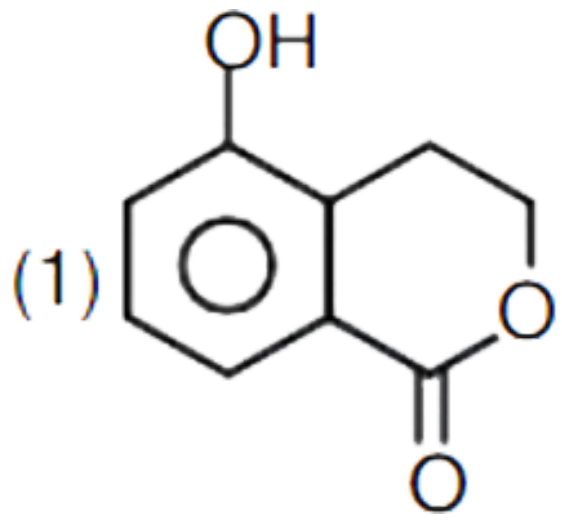
The product of following reaction is:

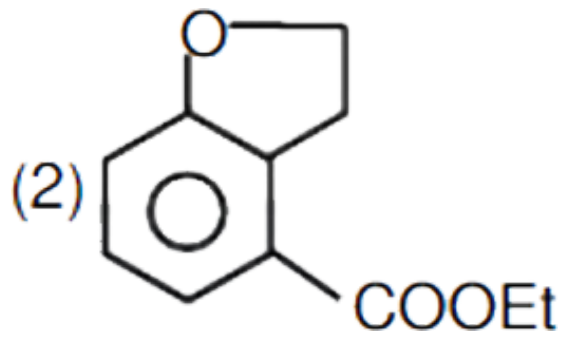


$$\xrightarrow[CHCl_3]{H_2SO_4\,(\text{Cat.})}$$

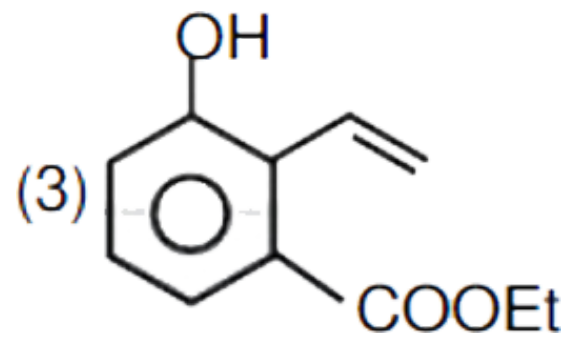
(A)



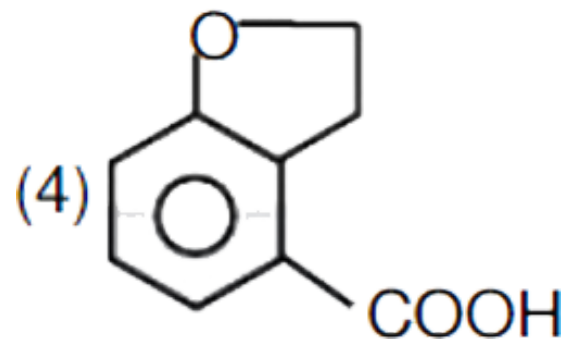
(B)



(C)



(D)



CORRECT OPTION: A

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Monomer of $\left[NH - \overset{\overset{O}{||}}{C} - NH - CH_2 \right] n$ is:

(A) Methanamine

(B) N Methyl urea

(C) Formaldehyde

(D) Ammonia

CORRECT OPTION: C

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Which can give both carbylamine test and cerric ammonium nitrate test?

(A) Asn-Gin

(B) Lys-Gin

(C) Asp-Lys

(D) Lys-Ser

CORRECT OPTION: D

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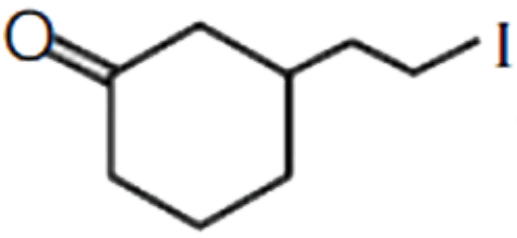
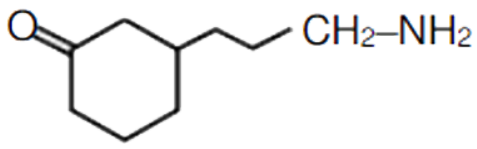


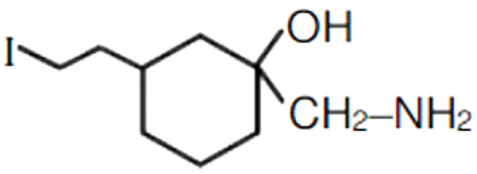
KCN, DMSO → H_2, Pd → Product is

$\xrightarrow[DMSO]{KCN} \xrightarrow{H_2, Pd}$ product is

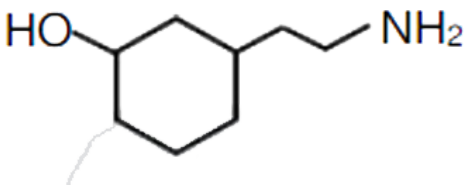
(A) (1)



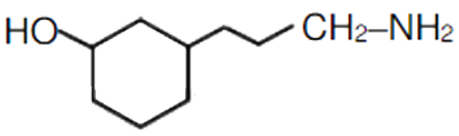
(B) (2)



(C) (3)



(D) (4)



CORRECT OPTION: B

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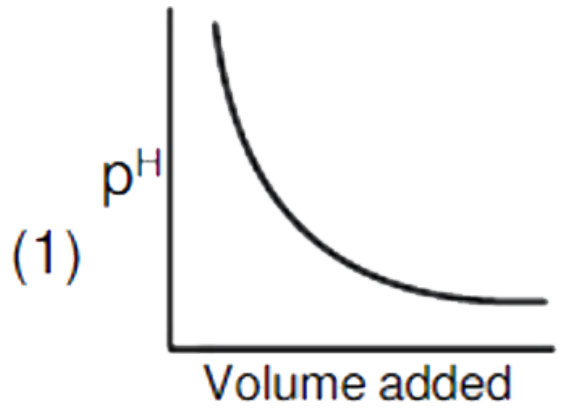
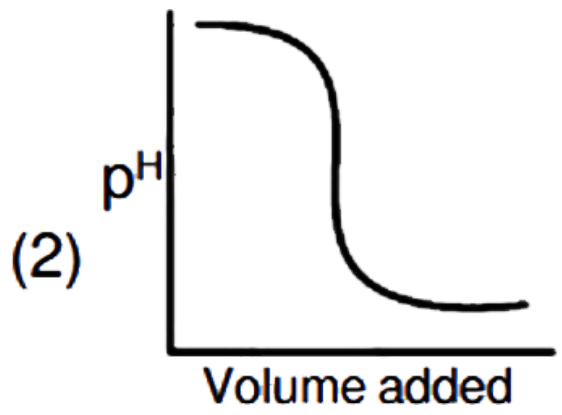
$0.1MHCl$ is added to an unknown strength of $NaOH$ solution. Identify the correct diagram

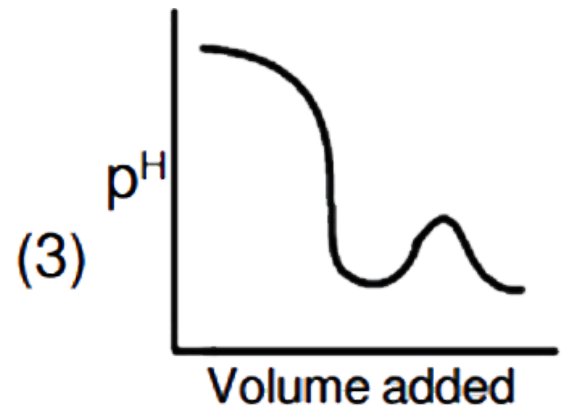
(A)



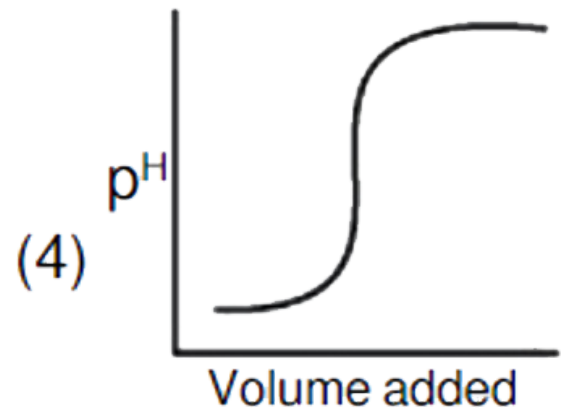
(B)



(C)



(D)



CORRECT OPTION: B

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12 - 9469498

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Calculate ΔU if $2kJ$ heat is released and $10kJ$ work is done on the system.

(A) $12kJ$

(B) $8kJ$

(C) $-8kJ$

(D) $-12kJ$

CORRECT OPTION: B

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$0.1F$ charge is supplied to a solution of $Ni(NO_3)_2$. Then the amount of Ni deposited (in mol) at the cathode will be:

(A) 0.05

(B) 1.0

(C) 0.5

(D) 0.10

CORRECT OPTION: A

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Calculate depression in freezing point of $0.03m$ solution of K_2SO_4 (assumed ionised) in a solvent with $K_f = 4Kkg\text{mol}^{-1}$

(A) $0.36K$

(B) $0.12K$

(C) $0.48K$

(D) $0.24K$

CORRECT OPTION: A

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Which of the following is amorphous form of silica

(A) Quartz

(B) Kieselguhr

(C) Tridymite

(D) Cristobalite

CORRECT OPTION: B

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$20\ \%\ \frac{W}{W} Kl$ will have molality _ (given $GMM = 166gm$)

(A) 1.35

(B) 1.51

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(C) 1.48

(D) 1.30

CORRECT OPTION: B

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At a constant temperature Ne, Ar, Kr and Xe devite from ideal behaviro according to equation

$$P = \frac{RT}{V_m - b}$$

(A) Ne

(B) Ar

(C) Kr

(D) Xe

CORRECT OPTION: D

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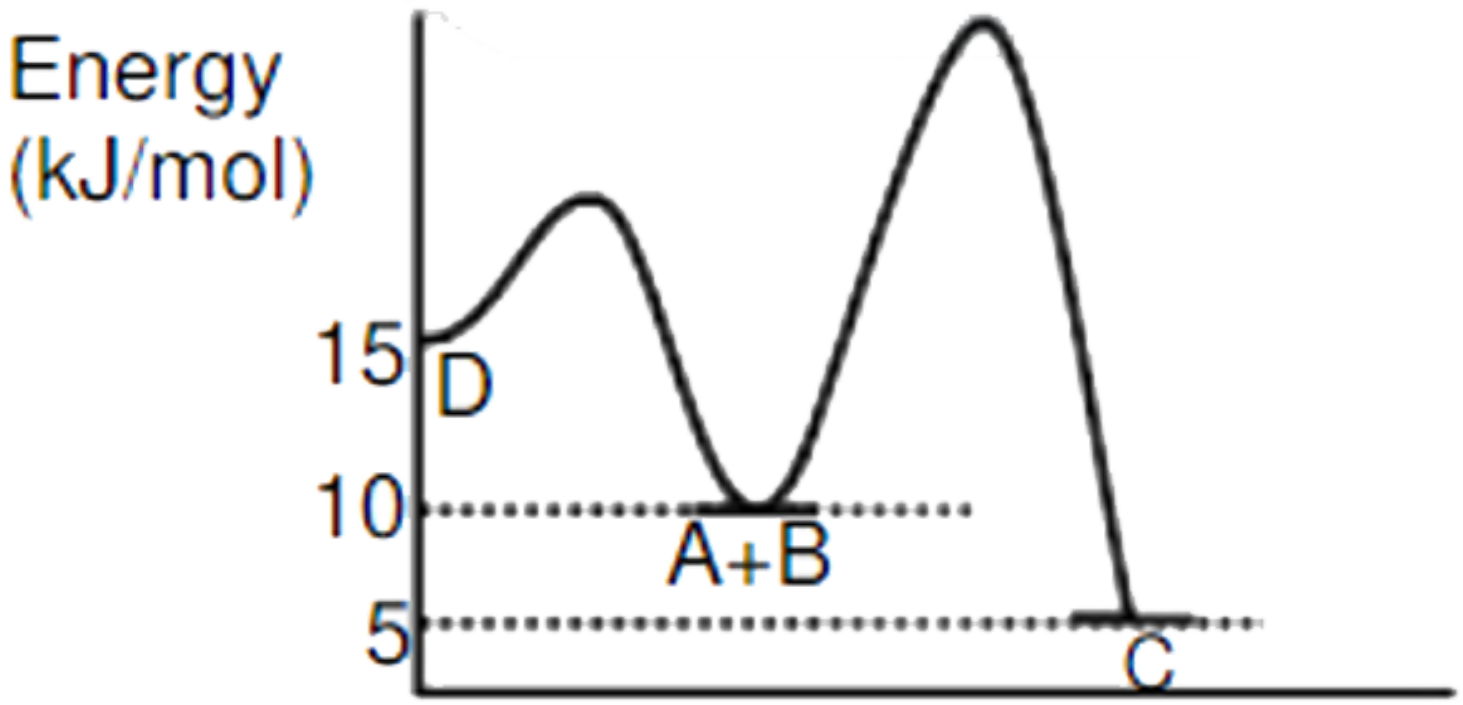
Which of the following statement is incorrect about the given energy profile diagram.



(A) C is thermodynamically most stable

(B) D is kinetically most stable

(C) Activation energy for making $A + B$ from C is the maximum

(D) Enthalpy to form C is $5kJ$ less than to that to form D.

CORRECT OPTION: D

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Molecules from $10mL$ of $1mM$ surfactant solution are adsorbed on $0.24cm^2$ area forming unimolecular layer. Assuming surfactant molecules to be cube in shape, determine the edge length of the cube.

(A) $2 \pm$

(B) $2fm$

(C) $1 \pm$

(D) $1fm$

CORRECT OPTION: A

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Which of the following statements is incorrect for $1s$ orbital of hydrogen atom?

(A) It is possible to find an electron at a distance $2a_0$ ($a_0 =$ Bohr radius)

(B) The magnitude of potential energy is twice of kinetic energy for a given orbit

(C) The total energy of an electron is maximum in its first orbit.

(D) The probality density of finding an electron is maximum at the nucleus

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CORRECT OPTION: C

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Which of the following is diamagnetic?

(A) O_2

(B) CO

(C) B_2

(D) NO

CORRECT OPTION: B

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Maximum oxidation state is shown by which pair of elements:

(A) Np, Pu

(B) Cf, Bk

(C) Np, Pr

(D) Ac, Th

CORRECT OPTION: A

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Which of the following is not a carbonate ore?

(A) Calamine

(B) Siderite

(C) Bauxite

(D) Malachite

CORRECT OPTION: C

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Which of the following statements is//are correct?

I. B_2O_3 is an acidic oxide

II. Ga_2O_3 and Al_2O_3 are amphoteric oxides.

III. In_2O_3 and tl_2O_3 are basic oxides.

(A) I, II, III

(B) I, II

(C) II, III

(D) I, III

CORRECT OPTION: A

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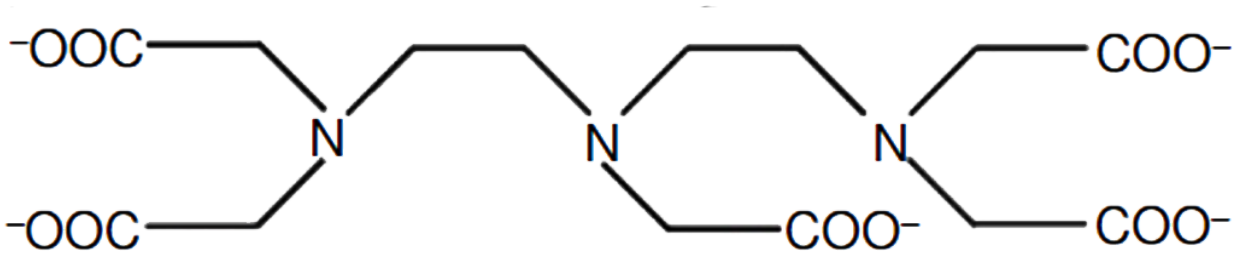
25.



The coordination number of the complex formed by this ligand with $3d$ transition metal and inner transition metal is respectively

(A) 6 and 6

(B) 8 and 6

(C) 6 and 8

(D) 8 and 8

CORRECT OPTION: C

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With reference to Valence Bond Theory in co-ordination compounds which of the following statements is//are, correct?

I. VBT does not explain the colour exhibited by co-ordination compounds.

II. VBT explains and gives quantitative interpetation of magnetic data.

III. VBT does not distinguish between weak field ligand and strong field ligand.

(A) I, II, III

(B) I, II

(C) II, III

(D) I, III

CORRECT OPTION: D

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Assertion: Iron is extracted from Haematite ore

Reason: Haematite is carbonate ore

(A) Assertion and Reason both are correct and Reason is correct explanation to Assertion

(B) Assertion and Reason both are correct but Reason is not correct explanation to Assertion

(C) Assertion is correct but Reason is incorrect

(D) Assertion is incorrect but Reason is correct

CORRECT OPTION: D

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Why does HF has the maximum boiling point amongst all hydroges halides?

(A) Due to hydrogen bonding

(B) Due to Vander Waal's forces

(C) Due to minimum molecular mass

(D) None of these

CORRECT OPTION: A

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