



CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA NEET SET 115

Chemistry

1. Which of the following statement is incorrect?

A. Ozone is violet-black in solid state

B. Ozone is diamagnetic gas

C. NOCl and ONO^- are isoelectronic

D. Ozone molecule is bent

Answer: C

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2. An electron in an atom jumps in such a way that its kinetic energy changes from x to $\frac{x}{9}$. The change in its potential energy (magnitude) will be-

A. $\frac{x}{9} eV$

B. $\frac{16}{x} eV$

C. $9xeV$

D. $\frac{9}{16} eV$

Answer: B

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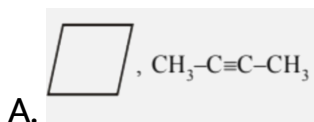
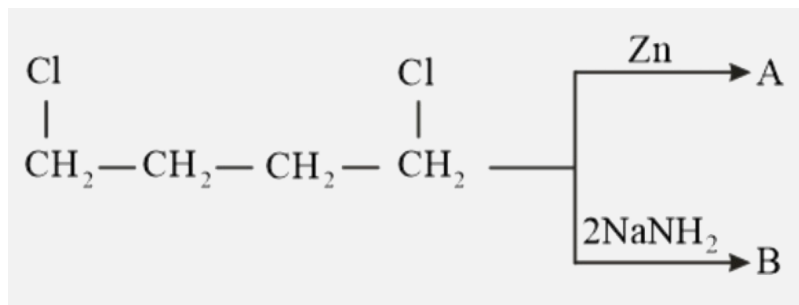
3. Which pair contains both the phosphorus in +3 state ?

- A. Orthophosphorous and hypophosphoric acids.
- B. Pyrophosphorous and pyrophosphoric acids
- C. Orthophosphorous and pyrophosphorous acids.
- D. Pyrophosphorous and hypophosphoric acids.

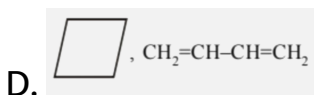
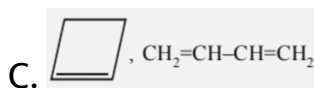
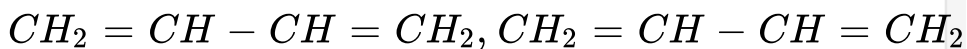
Answer: C

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4. What are the products A and B formed in the following reaction



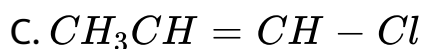
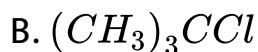
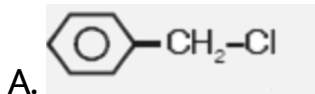
B.



Answer: D

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5. Which of the following organic compounds unable to give precipitation after reaction with silver nitrate ($AgNO_3$) ?

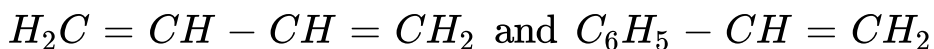


Answer: C

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6. Buna-N synthetic rubber is a copolymer of:

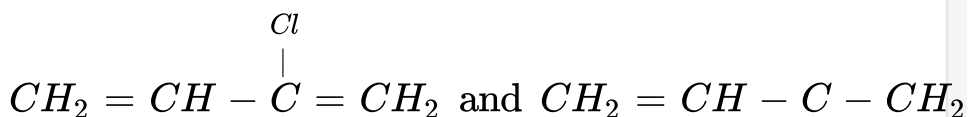
A.



B. $CH_2 = CH - CN$ and $CH_2 = CH - CH = CH_2$

C. $CH_2 = CH - CN$ and $CH_3 - \underset{\text{CH}_3}{\underset{|}{C}} - CH_2$

D.



Answer: B

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7. A silver cup is plated with silver by passing 965 C of electricity. The amount of Ag deposited is

A. 107.89 g

B. 9.89 g

C. 1.0002 g

D. 1.08 g

Answer: D

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8. 36.5% HCl has density equal to 1.20gmL^{-1} . The molarity (M) and molality (m), respectively, are

A. 15.7, 15.7

B. 12,12

C. 15.7, 12

D. 12, 15.7

Answer: D



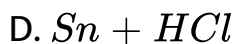
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9. Which reagent can convert acetic acid into ethanol?

A. Na + alcohol

B. $LiAlH_4$ + ether

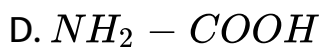
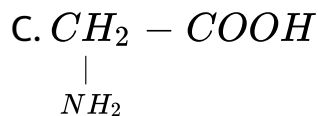
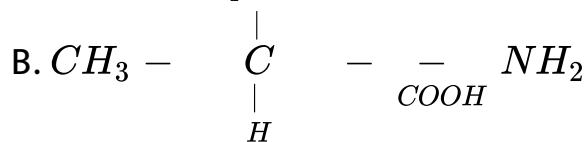
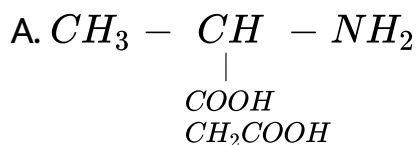
C. $H_2 + Pt$



Answer: B

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10. Which of the following is an example of acidic amino acid?



Answer: B



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11. Which of the following solutions at the same temperature will be isotonic?

A. 3.42 g of sucrose per litre of water and 0.18 g glucose per litre of water

B. 3.42 g of sucrose per litre and 0.18 g glucose is 0.1 litre of water.

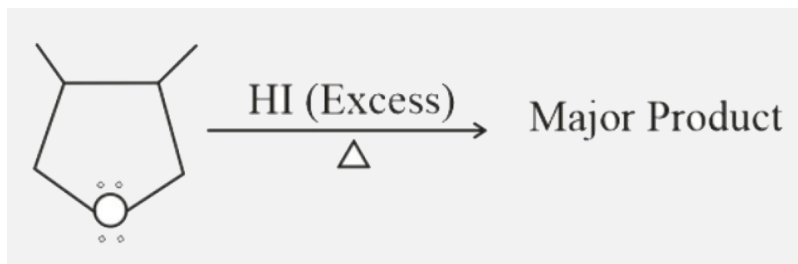
C. 3.42 g of sucrose per litre of water and 0.585 g of sodium chloride per litre of water

D. 3.42 g of sucrose per litre of water and 1.17 g of sodium chloride per litre of water.

Answer: B

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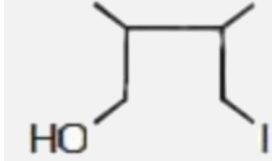
12. What will be the major product of the reaction given ?



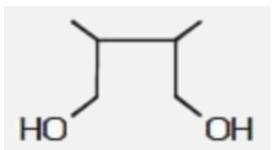
A.



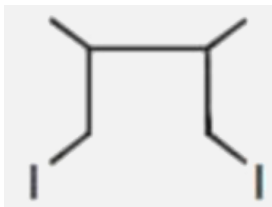
B.



C.



D.



Answer: D



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13. Match the molecules given from (List I) with the shape obtained through VSEPR theory (List II).

	List (I) Molecules		List (II) Shapes
(A)	PCl_5	(i)	V-Shaped
(B)	OF_2	(ii)	Triangular planar
(C)	BCl_3	(iii)	Trigonal bipyramidal
(D)	NH_3	(iv)	Trigonal pyramidal
		(v)	Tetrahedral

A. $A - i, B - V, C - iv, D - iii$

B. $A - ii, B - iii, C - i, D - ii$

C. $A - iv, B - iii, C - ii, D - v$

D. $A - iii, B - i, C - ii, D - iv$

Answer: D



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14. Lanthanoid contraction is caused due to:

A. Negligible screening effect of 4f orbitals

- B. Negligible screening effect of 5f orbital
- C. Decreasing nuclear charge
- D. Increasing screening effect

Answer: A



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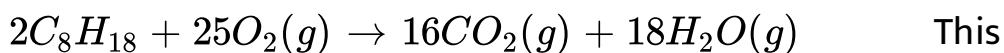
15. The correct order of reactivity of hydrogen halides with ethyl alcohol is

- A. HF > HCl > HBr > HI
- B. HCl > HBr > HF > HI
- C. HBr > HCl > HI > HF
- D. HI > HBr > HCl > HF

Answer: D

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16. The combustion reaction occurring in an automobile is



reaction is accompanied with:

A. $\Delta H = -ve$, $\Delta S + ve$, $\Delta G = +ve$

B. $\Delta H = +ve$, $\Delta S - ve$, $\Delta G = +ve$

C. $\Delta H = -ve$, $\Delta S + ve$, $\Delta G = -ve$

D. $\Delta H = +ve$, $\Delta S + ve$, $\Delta G = -ve$

Answer: C

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17. Evaluate the correct matching order of the following terms.

i	Narcotic drugs	a	Artificial sweetner
ii.	Saponification	b	Heroin
iii	Alitame	c	Hydrolysis of fats and oils

A. (i) - (b) , (ii) - (c) , (iii) - (a)

B. (i) - (a) , (ii) - (c) , (iii) - (b)

C. (i) - (b) , (ii) - (a) , (iii) - (c)

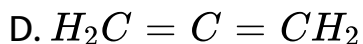
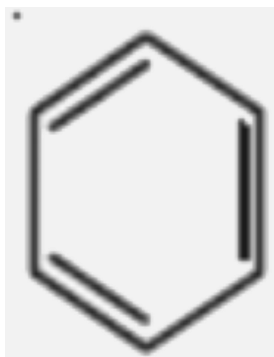
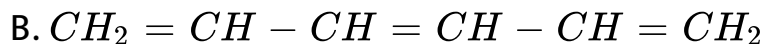
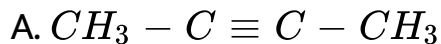
D. None of these

Answer: A



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18. Which of the following does not decolourise the Baeyer's reagent.



Answer: C



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19. Hydrometallurgy is useful in the extraction of

A. *Sn*

B. *Mg*

C. *Zn*

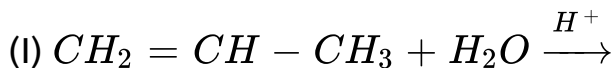
D. *Cu*

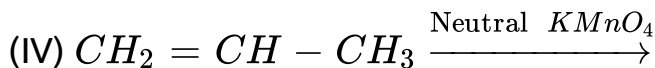
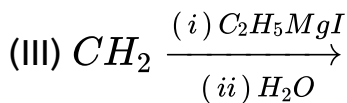
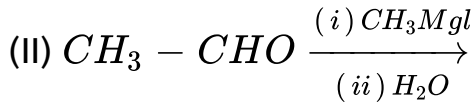
Answer: D



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20. Which one/ones of the following reactions will yield 2-propanol ?





A. I and II

B. II and III

C. I and III

D. II and IV

Answer: A



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21. If the distance between Na^+ and Cl^- ions in NaCl crystals is 265 pm, then edge length of the unit cell will be ?

A. 265 pm

B. 530 pm

C. 795 pm

D. 132.5 pm

Answer: B



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22. An electron jumps from an outer orbit to an inner orbit with the energy difference of 3.0 eV. What will be the wavelength of the line and in what region does the emission take place?

A. 3660 Å

B. 3620 Å

C. 4140 Å

D. 4560 Å

Answer: C



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23. Which of the following alcohols is unable to turn orange colour of chromic acid green ?

A. 3° alcohol

B. 2° alcohol

C. 1° alcohol

D. Allylic alcohol

Answer: A

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24. For the reaction : $aA \rightarrow bB$, it is given that

$$\log \left[\frac{-dA}{dt} \right] = \log \left[\frac{dB}{dt} \right] + 0.6020. \text{ What is } a : b \text{ is ?}$$

A. 4

B. 2

C. 1.5

D. 0

Answer: A

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25. For a sparingly soluble salt A_pB_q , the relationship of its solubility product (L_s) with its solubility (S) is

A. $L_s = S^{p+q} \cdot p^p \cdot q^q$

B. $L_s = S^{p+q} \cdot p^q \cdot q^p$

C. $L_s = S^{pq} \cdot p^p \cdot q^q$

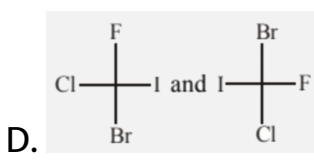
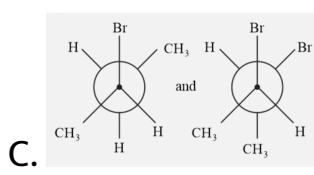
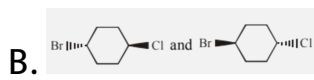
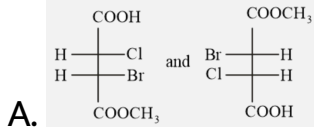
D. $L_s = S^{pq} \cdot (p \cdot q)^{p+q}$

Answer: A



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26. Which of the following pairs are enantiomers?



Answer: D


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27. The incorrect arrangement regarding the properties of the given species is :

A. $Co^{3+} < Fe^{3+} < Cr^{3+} < Sc^{3+}$: Stability in aqueous solution

B. $Sc < Ti < Cr < Mn$: Number of oxidation states

C. $V^{2+} < Cr^{2+} < Mn^{2+} < Fe^{2+}$: Paramagnetic behaviour

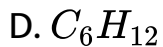
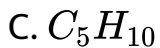
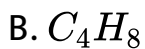
D. $Ni^{2+} < Co^{2+} < Fe^{2+} < Mn^{2+}$, ionic size

Answer: C

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28. In which of these cyclic compounds you find the minimum angle strain?

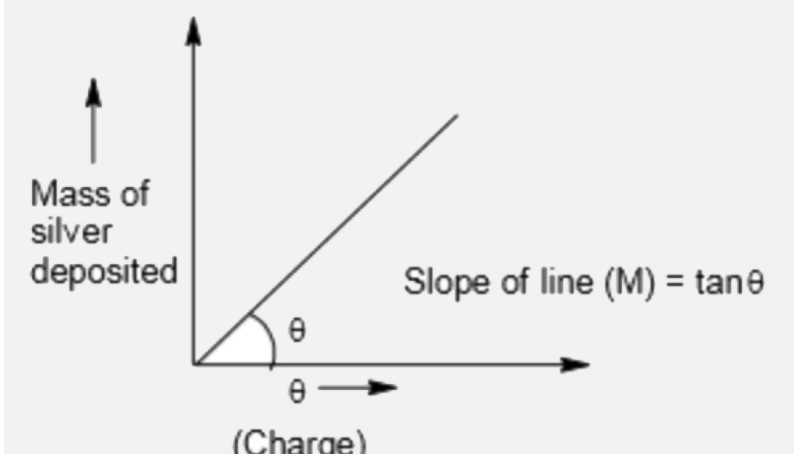
A. C_3H_6



Answer: D

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29. Calculate the deposited mass of silver which is plotted against charge in electrolysis of silver nitrate .



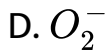
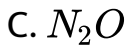
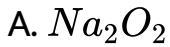
Slope of the line gives :

- A. The equivalent mass of silver
- B. Electrochemical equivalent of silver
- C. The value of Faraday
- D. The current passed through the cell

Answer: B

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30. Among the following , the paramagnetic compound is :



Answer: D



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31. For a monatomic gas, kinetic energy = E . The relation with *rms* velocity is

A. $u = \left(\frac{3E}{2m} \right)^{1/2}$

B. $u = \left(\frac{E}{2m}\right)^{1/2}$

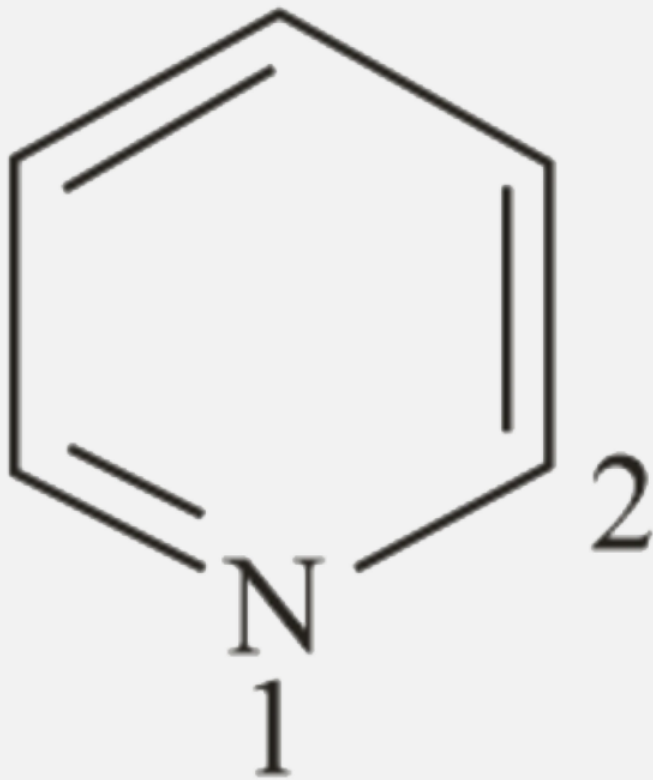
C. $u = \left(\frac{E}{3m}\right)^{1/2}$

D. $u = \left(\frac{2E}{m}\right)^{1/2}$

Answer: D

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32. Identify the correct hybridizations of atom 1 and 2, respectively, in the following structure.



- A. sp^3 and sp^2
- B. sp^2 and sp^3
- C. sp^3 and sp
- D. sp^2 and sp^2

Answer: D



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33. For the preparation of a buffer of $pH = 8.26$, the amount of $(NH_4)_2SO_4$ required to be mixed with one litre of $0.1(M)NH_3(aq)$, $pK_b = 4.74$ is ?

- A. 1.0 moles
- B. 10.0 moles
- C. 0.50 moles
- D. 5 moles

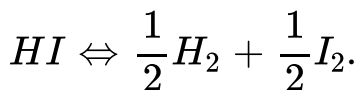
Answer: C



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34. Suppose the value of the equilibrium constant for the given reaction $H_2(g) + I_2(g) \rightleftharpoons 2HI(g)$ at 717 K is 64,

then calculate the same (eq. const.) for the reaction



A. 64

B. 8

C. $\frac{1}{64}$

D. $\frac{1}{8}$

Answer: D



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35. Positive iodoform test is given by

A. 1 - Pentanol

B. 3 - Pentanone

C. 2 - Pentanone

D. Pentanal

Answer: C



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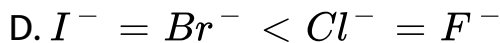
36. The correct order of polarizability for

I^- , Br^- , Cl^- , F^- is :

A. $I^- > Br^- > Cl^- > F^-$

B. $I^- > Br^- = Cl^- > F^-$

C. $I^- = Br^- = Cl^- > F^-$



Answer: A

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37. In the reaction $PCl_3 + Cl_2 \rightarrow PCl_5$, which of the following is correct?

- A. PCl_3 is acting as a reductant.
- B. Cl_2 is acting as a reductant.
- C. Both PCl_3 and Cl_2 are acting as reductants
- D. Both PCl_3 and Cl_2 are acting as oxidants

Answer: A

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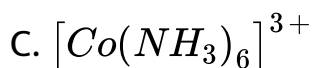
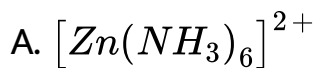
38. Which of the following products is formed when n - heptane is passed over $(Al_2O_3 + Cr_2O_3)$ catalyst at 773K?

- A. Benzene
- B. Toluene
- C. Polyheptane
- D. Cycloheptane

Answer: B

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39. Which one of the following is an inner orbital complex as well as diamagnetic in nature?

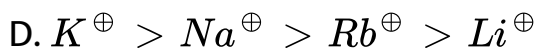
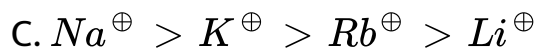
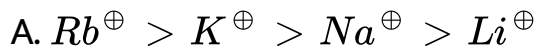


Answer: C



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40. The correct order of mobility of alkali metal ions in aqueous solution is



Answer: A



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41. Calculate spin only magnetic moment of Fe^{3+} ion.

A. 1.73 BM

B. 3.87 BM

C. 4.90 BM

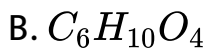
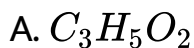
D. 5.92 BM

Answer: B



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42. An organic compound contains 49.3% carbon. 6.84% hydrogen and its vapour density is 73. Molecular formula of compound is



Answer: B



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43. The noble gas with the highest boiling point is :

A. Xe

B. He

C. Ne

D. Kr

Answer: A



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44. If $pK_a = 4$ and $k_a = Ca^2$, then find van't Hoff factor for a weak HA type acid, when $C = 0.01M$.

- A. 1.01
- B. 1.02
- C. 1.10
- D. 1.20

Answer: C



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45. What will be normality of the resultant solution when 500 ml $1NH_2SO_4$, 300 ml HCl and 200 ml $5NHNO_3$ are

mixed together and then volume was made 2000 ml by adding some water ?

A. 0.9 N

B. 2 N

C. 1.9 N

D. 4 N

Answer: A



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