



CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA NEET SET 76

Chemistry

1. The orbital diagram in which both the Pauli's exclusion principle and Hund's rule are violated is :

A. 

B. 

C. 

D. 

Answer: B



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2. The most important conditions for the formation of ionic bond are

A. High ionization energy of the metallic atom and high electron affinity of the non-metallic atom

B. Low ionization energy of the metallic atom and low electron affinity of the non-metallic atom

C. Low ionization energy of metallic atom and high electron affinity of the non-metallic atom

D. High ionization energy of the metallic atom and high electron affinity of non-metallic atom

Answer: C



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3. IUPAC name of the following compound



A. 2 - carboxybenzamide

B. 6 - carboxybenzamide

C. carboximidodenzoic acid

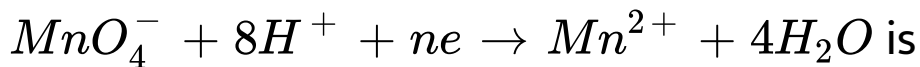
D. 2 - carboximidodenzoic acid

Answer: D



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4. The value of n in :



A. 5

B. 4

C. 3

D. 2

Answer: A



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5. Which of the following alkali metal halides has the lowest lattice energy

A. LiF

B. NaCl

C. KBr

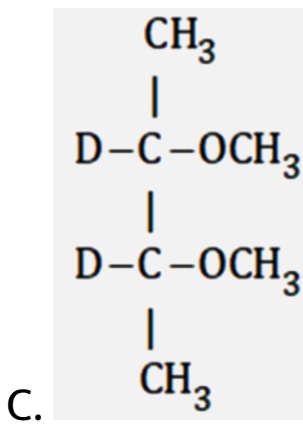
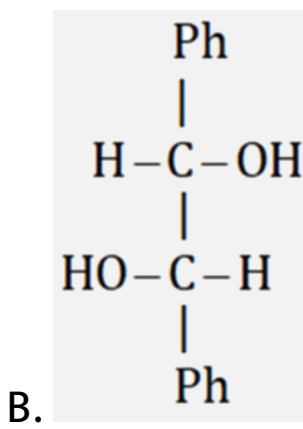
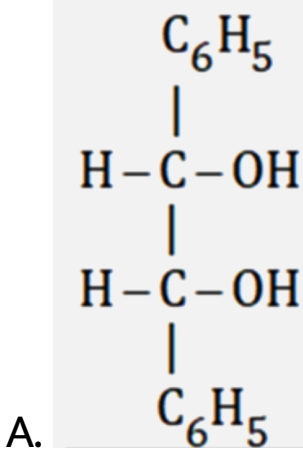
D. CsI

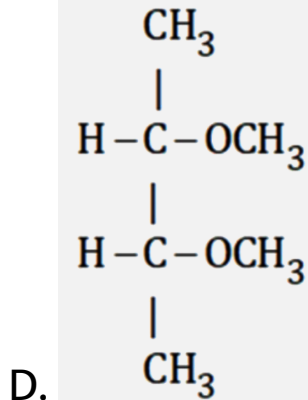
Answer: D



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6. Which one of the following compounds show optical activity



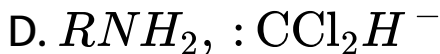
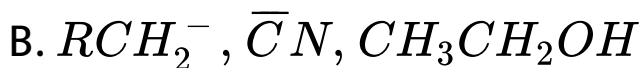


Answer: B

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7. Which of the following series contains nucleophiles only?

A. BF_3 , AlCl_3 , NH_3



Answer: B



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8. A mixture of ethyl iodide and n - propyl iodide is treated with sodium metal in presence of ethoxyethane . The hydrocarbon which is not formed is

A. butane

B. propane

C. pentane

D. hexane

Answer: B



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9. Alkaline earth metals form divalent ions instead of univalent ions because

A. the second ionization energy is almost double of the first ionization energy

B. unipositive ions have stable configuration

C. the hydration energy of dispositive ions compensates the higher value of second ionization energy

D. unipositive ions are highly hydrated

Answer: C



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10. NaCl is doped with 2×10^{-3} mol % $SrCl_2$,
the concentration of cation vacancies is

A. $3.01 \times 10^{18} \text{ mol}^{-1}$

B. $12.04 \times 10^{18} \text{ mol}^{-1}$

C. $6.02 \times 10^{18} \text{ mol}^{-1}$

D. $12.04 \times 10^{20} \text{ mol}^{-1}$

Answer: C



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11. *Be* and *Al* have the following resemblance due to diagonal relationship,

A. have identical atomic and ionic radii

B. have similar outer electronic configurations

C. have similar polarizing power

D. belong to the same group

Answer: C



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12. The major product (P) in the following reaction



A. 

B. 

C. 

D. 

Answer: A



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13. Which one is most stable to heat ?

A. HClO

B. HClO_2

C. HClO_3

D. HClO_4

Answer: D



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14. HI was heated in a sealed tube at $400^{\circ}C$ till the equilibrium was reached. HI was found to be 22% decomposed. The equilibrium constant for dissociation is

A. 0.282

B. 0.0796

C. 0.0199

D. 1.99

Answer: C



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15. Calculate the pH of buffer solution prepared by dissolving 0.20 mol of sodium cyanate (NaCNO) and 1.0 mol of cyanic acid (HCNO) in enough water to make 1.0 litre of solution .

$$K_a(\text{HCNO}) = 2.0 \times 10^{-4}$$

- A. 0
- B. 3.0
- C. 4.4
- D. 5.0

Answer: B



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16. In the mechanism for the reaction of HBr with t - butyl alcohol, pick out the correct statement .

A. Formation of protonated alcohol in a slow step

B. Formation of $(CH_3)_3C^+$ is a slow step

C. Formation of $(CH_3)_3CBr$ from

$(CH_3)_3C^+$ is a slow step

D. Formation of $(CH_3)_3C^+$ is a fast step

Answer: B



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17. $[Co(NH_3)_5Br]SO_4$ and

$[Co(NH_3)_5SO_4]Br$ are the examples of:

A. Linkage isomers

B. Coordination isomers


C. Ionisation isomers

D. Optical isomers

Answer: C



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18.  is the example of

A. Birch reduction

B. Clemmensen reduction

C. Wolff - Kishner reduction

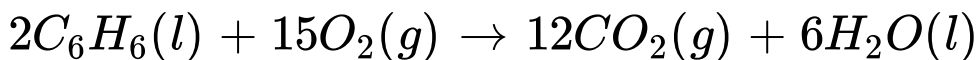
D. Hydride reduction

Answer: A



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19. The difference between the heats of reaction at constant pressure and a constant volume for the reaction



at $25^\circ C$ in kJ is

A. -7.43

B. $+3.72$

C. -3.72

D. $+7.43$

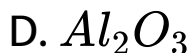
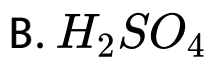
Answer: A



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20. Electrolyte used in Ni - Cd cell

A. KOH



Answer: A



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21. The electronic configuration of a dipositive ion M^{2+} is 2, 8, 14 and its mass number is 56.

The number of neutrons present is

A. 24

B. 30

C. 32

D. 56

Answer: B



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22. The oxidation number of C in sucrose

$(C_{12}H_{22}O_{11})$ is

A. + 4

B. + 3

C. + 2

D. 0

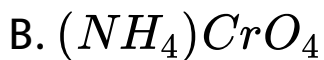
Answer: D



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23. Ammonium dichromate on heating gives

A. N_2O



Answer: D



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24. The number of iodine atoms present in 1cm^3 of its 0.1 M solution is

A. 12.04×10^{23}

B. 6.02×10^{22}

C. 12.04×10^{19}

D. 6.02×10^{20}

Answer: C



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25. The reaction of RCN with R'MgX, followed by hydrolysis gives

A. an aldehyde

B. a ketone

C. 2° alcohol

D. 3° alcohol

Answer: B



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26. Arsenic is used to dope germanium to obtain

A. n - type semiconductor

B. p - type semiconductor

C. germanium arsenide

D. a superconducting alloy

Answer: A



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27. The following are some of the methods commonly employed for the extraction of metals from their ores. Which of the following

methods is generally employed for the extraction of sodium ?

A. Reduction of an oxide with coke

B. Electrolysis of an aqueous solution of a chloride

C. Electrolysis of a molten chloride containing $CaCl_2$

D. Reduction of a chloride with more reactive metal

Answer: C



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28. Which of the following statement is false for alkali metals ?

A. Lithium is the strongest reducing agent

B. Sodium is amphoteric in nature

C. Li^+ is exceptionally small

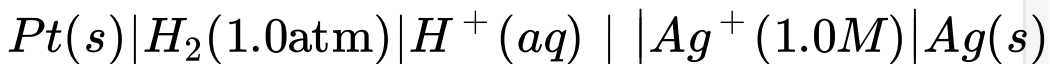
D. All alkali metals give blue solution in liquid ammonia

Answer: B



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29. The measured voltage of the cell,



is $1.02V$ at $25^\circ C$. Given E_{cell}° is 0.80 V ,

calculate the pH of the solution .

A. 1.86

B. 1.69

C. 3.73

D. 7.43

Answer: C



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30. At $90^\circ C$, pure water has $[H_3O^+]$ as 10^{-6} mol L^{-1} . What is the value of K_w at $90^\circ C$?

A. 10^{-6}

B. 10^{-12}

C. 10^{-14}

D. 10^{-8}

Answer: B



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31. Which one of the following is a polyhydrocarbon ?

A. Starch

B. Natural rubber

C. Casein

D. Terylene

Answer: B



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32. If the sequence of bases in one strand of *DNA* is *ATGACTGTC* then the sequence of bases in its complementary strands is:

A. TACTGACAG

B. TUCTGUCUG

C. GUAGTUAUG

D. none of the above

Answer: A



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33. The Brownian motion is due to :

A. temperature fluctuations within the liquid phase

B. attraction and repulsion between charges on the colloidal particles

C. impact of the molecules of the dispersion

medium on the colloidal particle

D. convection current

Answer: C



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34. The activation energy of a reaction is zero.

The rate constant of the reaction

A. increases with the increase in temperature

B. decreases with increase in temperature

C. decreases with the decrease in temperature

D. is independent of temperature

Answer: D



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35. Fluorobenzene is prepared conveniently

A. by heating benzene diazonium

tetrafluoroborate

B. by treating benzene with fluorine

C. by the action of phenol with SF_4

D. by treating benzene with CH_3F in

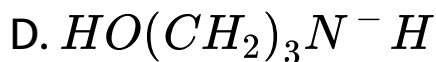
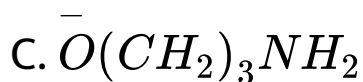
presence of anhydrous $AlCl_3$

Answer: A



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36. Give (a) conjugate acid (b) conjugate base of $HO(CH_2)_3NH_2$

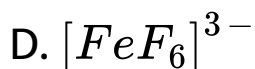
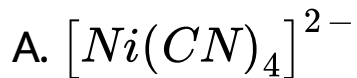


Answer: C



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37.is a low spin complex.



Answer: A



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38. Which of the following statement is incorrect regarding positive deviation from ideal behaviour

A. Force of interaction decreases

B. Volume increases

C. Observed vapour pressure is more than expected vapour pressure

D. Gibbs energy change (ΔG) is positive

Answer: D



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39. Which of the following does not reflect periodicity of elements ?

- A. Bonding behaviour
- B. Electronegativity
- C. Ionization energy
- D. Neutron/ proton ratio

Answer: D



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40. The reaction of benzoyl chloride with phenol in presence of NaOH is called

A. Schotten - Baumann reaction

B. Bouveault - Blank reduction

C. Clemmensen reduction

D. Stephen's reduction

Answer: A



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41. Which of the following statements about *RNA* is not correct?

- A. It has single strand structure
- B. It controls the synthesis of proteins
- C. It does not contains any pyrimidine base
- D. It does not undergo replication

Answer: C



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42. Which one of the following statements is wrong about zinc blende type structure ?

- A. Each Zn^{2+} ion is surrounded tetrahedrally by four S^{2-} ions and each S^{2-} ion by four Zn^{2+} ions
- B. S^{2-} ions form fcc arrangement
- C. AgBr has zinc blende type structure
- D. Cuprous halides have zinc blende type structure

Answer: C



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43. Pick out the incorrect statement regarding

H_2O_2 .

A. H_2O_2 is kept in waxlined bottle

B. H_2O_2 acts both as oxidizing and
reducing agent

C. It is not possible to determine its boiling point at atmospheric pressure

D. H_2O_2 does not react with acidified $KMnO_4$

Answer: D



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44. Ethanal reacts with HCN and the addition product so obtained is hydrolyzed to form a new compound. This compound shows

A. optical isomerism

B. geometrical isomerism

C. tautomerism

D. metamerism

Answer: A



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45. Which of the following is a false statement

?

A. Halogens are strong oxidizing agents

B. Halogens show only (negative) oxidation state

C. HF molecules form intermolecular H - bonds

D. Fluorine is highly reactive

Answer: B



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