



CHEMISTRY

BOOKS - SAI CHEMISTRY (TELUGU ENGLISH)

MOCK TEST 1

Chemistry

1. Incorrect statement among the following is

1) $LiAlH_4$ can reduce an amide into amine

without change in the number of carbon atoms.

II) A primary amide can be reduced to a primary amine by Br_2/KOH with same number of carbon atoms.

III) A primary amide can be reduced to a primary amine by $LiAlH_4$ with (n - 1) carbon atoms .

IV) Hoffmann's bromamide reaction is useful to prepare aniline from benzamide .

A. II only

B. I only

C. III and IV

D. II and III

Answer: D



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2. A compound (X) of the formula C_3H_8O yields a compound C_3H_6O on oxidation . To which of the following class of compounds could (X) belong?

A. Aldehyde

B. Secondary alcohol

C. Alkene

D. Tertiary alcohol

Answer: B



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3. Aldehydes and ketones which do not have methyl groups adjacent to the carbonyl group do not undergo

A. Oxidation

B. Reduction

C. Haloform reaction

D. Condensation reaction

Answer: C



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4. Which of the following statements is not correct ?

A. Aliphatic amines are stronger bases than ammonia

B. Aromatic amines are stronger bases than ammonia

C. The alkyl ammonium ion stabilizes the ion more than the amine

D. The aryl group in aryl ammonium ion less stabilizes the ion less than the amine

Answer: B



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5. Drugs can inhibit the catalytic activity of enzymes by binding at

- A. Active sites
- B. Allosteric sites
- C. Core of enzyme
- D. Both 1 & 2

Answer: D



6. D- glucose and L - glucose differ in

- A. Configuration at the highest number chiral carbon
- B. Configuration at first chiral carbon
- C. Configuration at each chiral carbon
- D. Configuration at the second chiral carbon

Answer: C



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7. Natural rubber is

A. Poly vinyl chloride

B. cis - Polyisoprene

C. trans - Polyisoprene

D. Polychloroprene

Answer: B



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8. Ellingham diagram represents

A. Change of ΔG with temperature

B. Change of ΔH with temperature

C. Change of ΔG with pressure

D. Change of $(\Delta G - T\Delta S)$ with
temperature

Answer: A



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9. Which of the following is an example for hydrophobic sol?

A. Starch sol

B. Gum

C. Protein sol

D. Arsenic sulphide sol

Answer: D



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10. In a fuel cell, combustion of hydrogen occurs to

A. Generate heat

B. Create potential difference between the two electrodes

C. Produce high purity of water

D. Remove absorbed oxygen from electrode surface

Answer: A



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11. A solution that obeys Raoult's law all concentrations and temperatures is called

- A. Ideal solution
- B. Non - ideal solution
- C. Normal solution
- D. Saturated solution

Answer: A

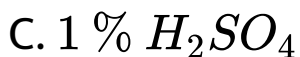


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12. Which of the following is more concentrated ?

Hint: For poly basic acids the concentration in

$1M > 1m > 1N > 1\%$.



Answer: A



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13. Total volume of gas evolved at STP when 36 g of H_2O is completely electrolysed between platinum electrodes

A. 22.4L

B. 44.8L

C. 33.6L

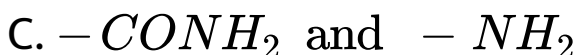
D. 67.2L

Answer: D



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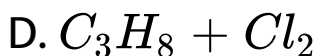
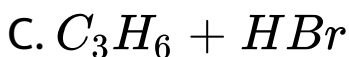
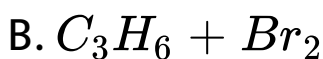
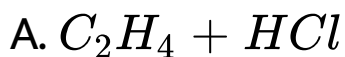
14. The strongest ortho - para and strongest meta - directing groups respectively are



Answer: D



15. The Markownikoff's rule is best applicable to the reaction between



Answer: C



16. Which one of the following pairs of ions has the same electronic configuration?



Answer: B



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17. Solution of SO_2 in water is known as

- A. Sulphuric acid
- B. Sulphurous acid
- C. Hydrosulphuric acid
- D. Thiosulphurous acid

Answer: B



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18. Which of the following statement is correct ?

A. ICl is a good conductor of electricity in fused state

B. Cl_2O_7 is an anhydride of perchloric acid

C. Melting and boiling points of HBr are less than HCl

D. F_2 does not form oxyacids

Answer: C



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19. Which of the following does not exhibit inert pair effect ?

A. Bi

B. Pb

C. B

D. Tl

Answer: C



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20. Potassium superoxide is used in oxygen cylinders in space and submarines because it

A. Decomposes to give oxygen

B. Eliminates moisture

C. Absorbs CO_2

D. produces ozone

Answer: A



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21. Which of the following is not correct regarding the electrolytic preparation of H_2O_2 ?

- A. Lead is used as cathode
- B. 50 % H_2SO_4 is used
- C. Hydrogen is liberated at anode
- D. Sulphuric acid undergoes oxidation

Answer: C



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22. Which of the following is correct ?

A. The pH of one litre solution containing

0.49g of H_2SO_4 is 2.0

B. The conjugate base of H_2S is S^{2-}

C. BF_3 is a Lewis base

D. CH_3COO^- is amphoteric ion

Answer: A



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23. In exothermic reaction

A. $H_R = H_P$

B. $H_R > H_P$

C. $H_R < H_P$

D. $\Delta H = 0$

Answer: B



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24. In which of the following the oxidation state of chlorine is +5?



Answer: B



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25. A: $K_4[Fe(CN)_6]$ is diamagnetic

R: The alignments of magnetic dipoles are in compensatory to give zero magnetic moment

A. If both assertion and reason are correct ,
reason is the correct explanation of the
assertion .

B. If both assertion and reason are correct ,
but reason is not the correct
explanation of the assertion

C. If assertion is correct but reason is incorrect

D. if assertion is incorrect but reason is correct

Answer: C



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26. Water drop stick to a glass surface due to

A. Cohesion

B. Adhesion

C. Flocculation

D. None of these

Answer: B



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27. If thermal energy predominates over intermolecular forces, then the substance changes from.....to.....

A. Gas to liquid

B. Liquid to solid

C. Gas to solid

D. Liquid to gas

Answer: D



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28. The hybridisation of central atom is sp^3d^2

in



Answer: D



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29. The formal charges on the three oxygen atoms in O_3 molecule are

A. 0, 0, 0

B. 0, 0, - 1

C. 0, 0, + 1

D. 0, + 1, - 1

Answer: D



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30. Among the elements A,B,C and D having atomic numbers 9,10,11 and 12 respectively the correct order of ionisation energies is

A. $A > B > C > D$

B. $B > A > D > C$

C. $B > A > C > D$

D. $D > C > B > A$

Answer: B



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31. The following are some statements about Mendeleev's periodic table

(i) It is based on increasing order of atomic

numbers .

(ii) Mendeleev corrected the atomic weight of some elements like Be, In, U, etc.

(iii) (Ar, Ca), (Co, Cu), (Te , F) are three inverted pairs.

(iv) it is based on increasing order of atomic weights.

A. Only (I) is correct

B. (II) & (IV) are correct

C. only (III) is correct

D. Only (IV)is correct

Answer: B



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32. Transition metal " X " has a configuration $[Ar]3d^4$ in its $+3$ oxidation state . The atomic number of the metal is

A. 26

B. 22

C. 19

D. 25

Answer: D



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33. The wave number of limiting line in Balmer series of hydrogen atoms is

A. $(4) / (109678) \text{cm}^{-1}$

B. 109678cm^{-1}

C. $(109678) / (4) \text{cm}^{-1}$

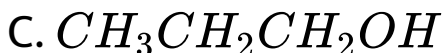
D. $4 \times 109678 \text{cm}^{-1}$

Answer: C



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34. Which on oxidation will not give a carboxylic acid with the same number of carbon atoms?



Answer: A



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35. PDI refers to

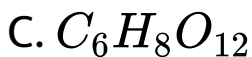
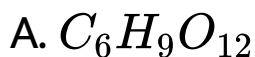
- A. Name of the polymer
- B. Polydispersity index
- C. Planck's disposal index
- D. Poly diagonal index

Answer: B



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36. The empirical formula of a compound is found to be $C_2H_3O_4$. The molar mass was found to be $273.1g/mol$. Find its molecular formula .



Answer: A



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37. 40 grams of a sample of carbon on combustion left 10 % of it unreacted . The volume of oxygen required at STP for this combustion reaction is

A. $22.4L$

B. $67.2L$

C. $11.2L$

D. 44.8L

Answer: B



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