CHEMISTRY

BOOKS - OMEGA PUBLICATION

SAMPLE QUESTION PAPER -III

(PUNJAB)

Question

1. Which of the two, molarity and molality, is better to express concentration and why?

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2. State first law of Thermodynamics. Give its mathematical form.

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3. Mass of 1 molecule .of NH_3 is_____.

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4. What is the oxidation state of Cr in K_2Cr0_3

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5. Explain Pauli's exclusion principle.

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6. Give two characteristics of homologous series.

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7. If a plant has fibrous root then what kind of venation does its leaves will probably have?

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8. What is screening effect ?

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9. Define empirical formula.

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10. Calculate mass of 10^{20} atoms of oxygen.

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11. What raw materials are needed for a plant to get the process of photosynthesis done?

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12. Explain why:

Al utensils should not be kept in water over night.

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13. Explain why

Al wire is used to make transmission cables.

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14. Distinguish between classical and photochemical smogs.

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15. Define disproportionisation and simple displacement redox reactions.

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16. Why do aldehydes and ketones have high dipole moments?

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17. CCl_4 is not hydrolysed but $SiCl_4$ can be hydrolysed with water. Why ?

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18. Derive van der Waals' equation of State for n moles of gas.'

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19. Calculate the kinetic energy of 0.2 g of H_2 at $27^\circ C$.

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20. Calculate enthalpy of the reaction : $4NH_3(g) + 3O_2(g) \rightarrow 2N_2(g) + 6H_2O(I)$ at 298K, given $\triangle H_f$ for , $NH_3(g), H_2O(I)$ are -46 k J / mol and -286 k J per mol respectively.

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21. Explain Le Chatelier's principle.

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22. BF_3 acts as a Lewis acid. Why ?

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23. Can you prepare a solution having pH more than 14 ?

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24. Write IUPAC name of the following compunds

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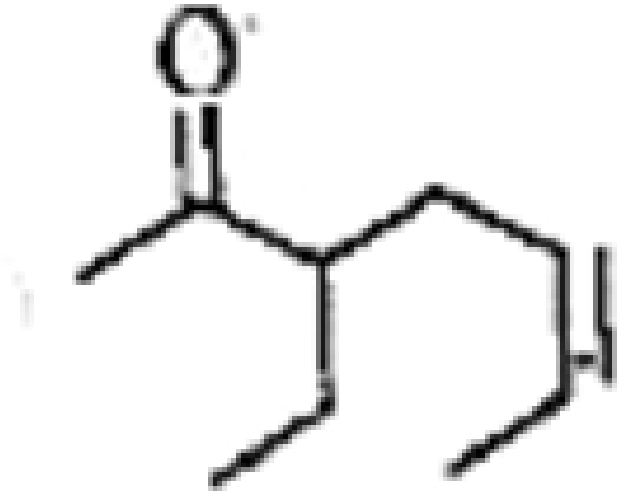

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26. Why tirtary carbocations are more stable than, secondary and primary carbocations? Explain.

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27. Give the chemistry of Solvay process for the manufacture of Na_2CO_3.

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28. Group 2 elements are denser and harder than group 1 elements. Why ?

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29. What is isotopic effect?

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30. How does ozone react with :

$FesO_4$

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31. Explain why H_2O is a liquid but H_2S is a gas at room temperature.

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32. Give the chemistry of Borax bead test.

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33. Calculate the formal charge on each O-atom in O_3.

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34. Define bond order. What is its importance?

Calculate bond.order in 0_2 molecule.

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35. Explain the quantum number n, l and m.

Also give the physical significance of each.

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36. Calculate de Broglie's wavelength associated with an electron moving with a velocity equal to $1/10th$ of light.

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37. Derive de Broglie's equation.

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38. Distinguish between matter waves and electromagnetic waves.

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39. How will you convert C_2H_2 into (a) Acetaldehyde (b) 1,1-Dichloroethane (c) But-l-yne.

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40. Describe the orbital picture of C_2H_2.

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41. Explain Markownikov's rule and peroxide effect.

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42. Give the laboratory preparation of ethene.

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43. What is the mechanism of chlorination on ethane.


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