



CHEMISTRY

BOOKS - OMEGA PUBLICATION

SAMPLE QUESTION PAPER -v (PUNJAB)

Question

1. Hard water contains :

A. NaCl

B. NaOH

C. $CaCl_2$

D. Na_2CO_3

Answer:



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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_2CrO_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. Distinguish between oxidation number and valency.



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8. What is screening effect ?



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9. Prove that $pH + pOH = 14$.



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10. Define empirical formula and molecular formula ? How are they related to each other ?



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



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12. What is diborane ? Give its structure.



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13. Explain why:

Al utensils should not be kept in water over night.



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14. Explain why

Al wire is used to make transmission cables.



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15. Distinguish between classical and photochemical smogs.



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16. Define disproportionation and simple displacement redox reactions.



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17. Which out of NH_3 and NF_3 have higher dipole moment and why?



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



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



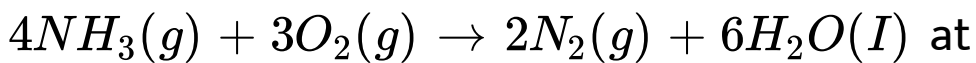
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20. Calculate the kinetic energy of 0.2 g of H_2 at $27^\circ C$.



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21. Calculate enthalpy of the reaction :



298K, given ΔH_f for , $NH_3(g)$, $H_2O(l)$ are -

46 kJ / mol and -286 kJ per mol respectively.



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22. State and explain Le chatelier's Principle.

What are its applications.



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23. BF_3 acts as a Lewis acid. Why ?



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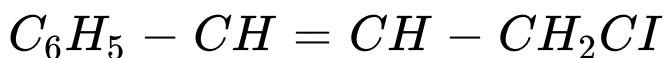
24. Can you prepare a solution having pH more than 14 ?





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25. Write IUPAC name of the following compounds



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26. Write IUPAC name of the following compounds



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27. Out of the following plants which are known as herbs- Mango tree, Basil, Orange tree, coriander?



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28. Why tertiary carbocations are more stable than, secondary and primary carbocations? Explain.



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



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



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31. What is isotopic effect?



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32. How does H_2O_2 reacts with : (a) PbS (b)

Acidified $FeSO_4$



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



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34. Give the chemistry of Borax bead test.



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



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36. Define bond order. What is its importance?

Calculate bond order in O_2 molecule.



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

Also give the physical significance of each.



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



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39. Derive de Broglie's equation.



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40. What is the difference between matter waves and electromagnetic waves?



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



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42. Describe the orbital picture of C_2H_2 .



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43. Explain Markownikov's rule.



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44. Give the laboratory preparation of ethene.



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45. What is the mechanism of chlorination on ethane.



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