

CHEMISTRY

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TIRTHAPATI INSTITUTION QUESTION PAPER

Exercise

1. Write one drawback of Dalton's atomic theory.



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2. Illustrate with example law of multiple proportion.



3. In a hydrocarbon y.c = 75. vapour density of the compound .Find the cmperical & molecular formula of the compound.



4. Stare Bohr's theory.

5. The uncertainity in the momentum of an electron is $10^{-5}kgms^{-1}$. Calculate the uncertainity of its position.

$$[h = 6.62 \times 10^{-34} JS].$$



6. State Pauli's exclusion principle.



7. State modern periodic law.



8. Write IUPAC name of an elements having atomic no.116.



9. Why the electron affinity of chlorine is higher than that fluorine?



10. Write the general outer electronic configuration of f block elements.



11. Explain the shape of $BeCl_2 \ \& \ NH_4^{\ +}$ according to VSEPR theory.



12. O_2 is paramagnetic, why?



13. H_2O is liquid but H_2S is gas why?



14. Define: Surface tension.



15. Define:Critical temperature.



16. Define: Avogadro's number.



17. 0.64 g of gas at $0^{\circ}C$ and 75 cm Hg pressure occupy 225 ml volm. Find its molecular weight?



18. Write the thermodynamic criteria for equilibrium condition and spontaneity.

19. Heat of formation of $CO_2,\,H_2O\&CH_4are-100cal,\,-50cal\&-70cal$



. Find heat of combustion of $CH_{ extit{4}}.$

20. 2 mol of an ideal gas at 3 atm pressure is expanded from 10 lit to 20 lit. Find work done and change in internal energy.



21. State Le-Chateliers principle.



22. Find the pH of $0.1(N)HCl\&10^{-8}(N)HCl$ solution.



23. Solubility of $Zn_3(PO_4)_2$ is 'S' mol/lit. Find its solubility product.



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24. Define oxidation in terms of electronic theory.



25. Balance by oxidation number method

$$Cu + HNO_3
ightarrow Cu(NO_3)_2 + NO_2 + H_2O.$$



26. Balance by ion-electron method.

$$Fe^{\,+\,2} + MnO_4^{\,-} + H^{\,+}
ightarrow Fe^{\,+\,3} + Mn^{\,+\,2} + H_2O^{\,-}$$



27. Name a metal which liberate H_2 gas .from acid and alkali.



28. Write the principle of laboratory preparation of H_2O_2 with equation.



29. Give one example of ionic hydride.



30. Give one example of Co-valent Hydride.



31. What is Buffer solution.



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