CHEMISTRY

BOOKS - OSWAAL PUBLICATION

Sample Paper 8

Exercise

1. What is the SI unit of density?

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2. Write a single equation that combine the four measurable variables P,V,T and n.

3. Define physical equilibrium.

4. Which of the following has the largest size :

$$Na^+, Na, CI, CI^-$$

5. Name a compound in which the oxidation number of oxygen is $+1$.

6. Which alkali metal does not form peroxide and superoxide?

7. What is the composition of producer gas?

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8. Write the formula of orthoboric acid.

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9. Write one application of fractional distillation.

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10. Define stereo-isomers.

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11. What is AZT? Write its important

application

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12. What is AZT? Write its important application

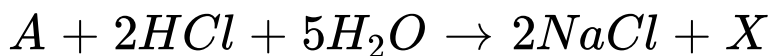**13.** Which element among alkali metals is : Strongest reducing agent

14. Which element among alkali metals is :

Radioactive

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15. Identity the compounds A and X in the

following reaction :

$$A + 2HCl + 5H_2O \rightarrow 2NaCl + X$$

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16. What is L.P.G? What is its use?

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17. Mention any two necerssaary conditions for any system to be aromatic.

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18. What are primary and secondary pollutants of the air?

19. State modern periodic law and assign IUPAC name of element with atomic number 111.

20. Arrange the following in increasing order their negative electron gain enthalpy: F,Cl ,Br and I.

21. Write three main characterestics of ionic compounds.

22. Explain the resonating structures of the following: N_2O

23. Explain the resonating structures of the following: SO_2

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24. Calculate formal charge on sulphur atom in $SoCl_2$

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25. Draw energy level diagram for $He - 2$ molecule.Calculate its bond order.

26. Balance the followng equation in basic medium by ion-electron method:`$P_4(s)+OH^-$(aq))rarrPH_3(g)+H_2PO_2^-(aq)$

27. Complete the following equations:

`$PbS(s)+H_2O_2(aq)-$

28. Complete the following equations:

$CaO(s) + H_2O(g) \rarr$
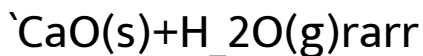
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29. Complete the following equations:

$AlCl(s) + H_2O(l) \rarr$
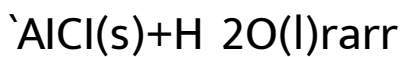
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30. What is the formula of epsom salt.

31. How does baking soda prepared in laboratory,write one use of it.

32. List two similarities between boron and silicon.

33. Given any one use of silicones

34. Define the terms: Mass percentage

35. Define the terms : Mole fraction.

36. How much copper can be obtained from 100 g of copper sulphate `(CuSO_4)?

37. Calculate number of protonx,neutrohns and electrons in $^{80}_{35}Br$

38. What do you understand by photoelectric effect?

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39. State Aufbau principle.

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40. Give the values for all quantum numbers for 2p electrons in nitrogen ($Z = 7$).

41. State Dalton's law of partial presuures.

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42. 200 ml of SO_2 diffurse through a porous plug in 600 seconds.What volume of methane (CH_4) will diffuse in the same time.

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43. What do you mean by isolated system ? Given an example also.

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44. A swimming pool contains 1 x 10^6 L of water. How much energy in Joule is required to raise the temperature of water from 20^0c to 30^0c ? The specific heat capacity of water is 4.184 J/0C g^-1

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45. Explain the enthalpy of hydration with suitable example.

46. Define entropy.Calculate entropy change for the following reversible process : 1 mole of liquid water at 1 atm $100°C$ evaporates to 1 mole water vapours $\left(\Delta_v apf \text{ or } H_2O = 2257 jg^{-1}\right)$

47. Write any two characteristics of physical equilibria.

48. At equilibrium the concentration of N_2 =3.0×10 −3 M,O_2 =4.2×10 −3 M and NO=2.8×10 −3 M in a sealed vessel at 800 K. What will be K_c for the reaction N_2 +O_2 → 2NO.

49. Define acids and bases by Lewis concept.Write one limitation of this concept.

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50. What do you mean by buffer solution.Give their types also.

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51. Suggest a method to separate the constituents of the following mixture : Mixture of two micsible liquids.
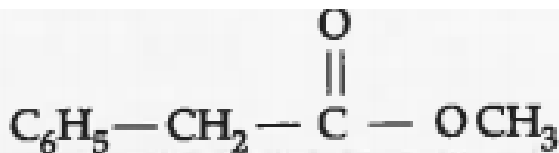
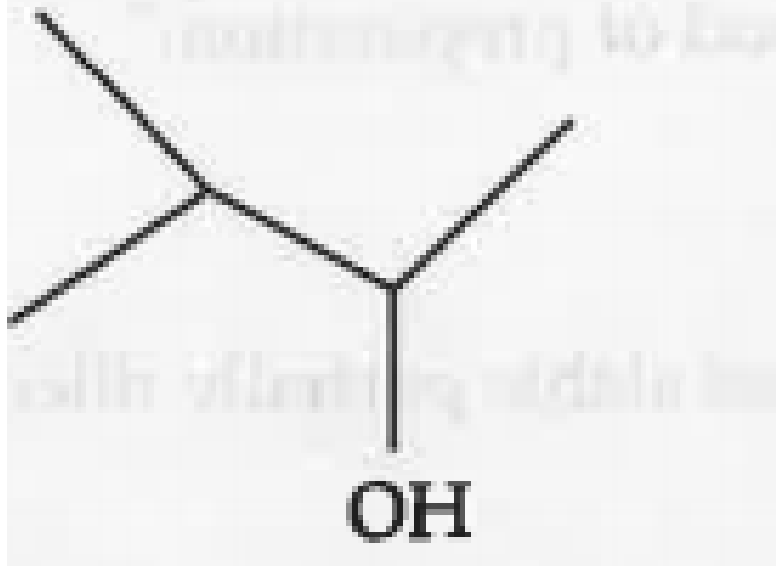**52.** Suggest a method to separate the constituents of the following mixture : A mixture of plant pigments.

53. write IUPAC name of the following organic compounds:

$$C_6H_5-CH_2-\overset{\overset{\textstyle O}{\|}}{C}-OCH_3$$

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54. write IUPAC name of the following organic compounds:

OH

55. write IUPAC name of the following organic compounds: $CH_3 - CH = CH - CH_3$

56. Explain functional isomerism with example.

57. Explain following terms:Electron withdrawing inductive effect (-I effect)

58. Explain following terms: Carbocations

59. Explain following terms:Free radicals

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60. How wil you convert benzene into: m-nitrochlorobenzene?

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61. How will you convert benzene into: p-nitrotoluene?

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62. Explain the mechanism of nitration of benzene .

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