CHEMISTRY

BOOKS - UNITED BOOK HOUSE

MODEL QUESTION PAPER 6

Exercise

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1. No. of unpaired electron in Ni^{2+} ion

    A. 0

    B. 3

C. 2

D. 4

Answer:

2. Which one has zero dipole moment—

A. 1, 1 — di chloroethelyne

B. Cis-1, 2 -dichloroethylene

C. Trans - 1,2 - dichloro ethylene

D. 1, 2 - di chloroethene

Answer:

3. Maximum hydrogen bond that one'water molecule

can form

A. 1

B. 2

C. 3

D. 4

Answer:

4. Which one will effuse paster —

A. SO_2

B. CH_4

C. $110K$

D. $710K$

Answer:

5. The temperature at which the reaction will be spontaneous $C + O_2 = CO_2$, $\Delta H = 170 kJmol^{-1}$, $\Delta S = 170 JK^{-1}mol^{-1}$

A. $510K$

B. $910K$

C. $1110K$

D. $710K$

Answer:

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6. Hess's Law is -

    A. Law of Consevation'of energy

    B. Concept of temperature

    C. Source of 2nd law of thermodynamics

    D. None of these.

Answer:

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7. Which one is not a state function.

A. Internal energy

B. free energy

C. enthelpy

D. Heat

Answer:

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8. $N_2O_4 \rightleftharpoons 2NO_2$ if at equilibrium degree of dissociation be α then for 1 mole of N_2O_4 .No of mole of mixture:

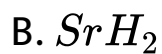A. $1 + 2\alpha$

B. $1 - \alpha$

C. $1 + \alpha$

D. $1 + 4\alpha$

Answer:

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9. Hydrolith is—

A. CaH_2

B. SrH_2

C. BaH_2

D. BeH_2

Answer:

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10. Oesteoporesis Causes due to scarcity of—

A. Mg

B. Ca

C. Zn

D. Na

Answer:

11. No of disubstituted Compound of Benzene

A. 5

B. 4

C. 2

D. 3

Answer:

12. Hybridisation of * marked Carbon atom in

$$H_2C = C = CH_2$$

A. Sp^3

B. Sp^2

C. Sp

D. Sp^3d

Answer:

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13. Which one is present in Acid rain

    A. H_2CO_3

    B. H_3PO_4

    C. $HC1$

    D. $HCOOH$
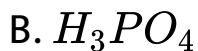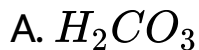
Answer:

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14. Which law of the chemical combination is known as law of equivalent ratio?

15. Give an example of non daltonic compound?

16. Why Scandium can't form colour compound? Write the general electronic configuration for 'f' block element.

17. Which block element in the periodic table does not show variable valancy?

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18. State to state function of a system.

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19. What is used in Friedel Craft reaction instead of $AICl_3$?

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20. Calculate the water of crystallization in $CuSO_4$. When 1 gm hydrated $CuSO_4$ on heating yields 0.6393 gm of $CuSO_4$ anhydrous.

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21. Show that the atomic weight of Metal M having equivalent weight x form an oxide M_nO_m is $(2xm)/n$.

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22. 1eV = How much Joule? What do you understand by the term isostere?

23. It the energy of 1st Bohr orbit be 13.6eV of a hydrogen atom, then calculate the energy for 2nd orbit in Joule.

24. Why the melting point of Boron is so high? State one use of Boron Carbide.

25. Why the phenolphthalein turns pink in borax solution? Why it becomes colourless in presence of glycerol?

26. Why Na Is taken in excess in Lassigne's test?

27. What is TLV? Write one harmful effect of PAN?

28. Write two difference between orbit anoorbital. What difference will be found jn 2p & 3p orbital.

29. Calculate wavelength of a photon having energy 1.2 ev. (1 ev = 1.601 xx 10^{-19} Joule)

30. What in inner transition metal? Give one example of inert pair effect.

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31. Define ionisation potential. State its change down a group.

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32. How many σ & π bonds are there in propene molecule. State the hybridisation of the central

atom, CH_4, $BeCl_2$ BF_3, NH_3.

33. Dipole moment and bond length of A B type molecule are 7.42 D $2.04\overset{\circ}{A}$. Calculate percent Covalent Character. Give an example of Intra molecular hydrogen bonding.

34. State Grahams law of difussion from kinetic theory of gases. What do you mean by most

probable velocity?

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35. Why the froth formed from Sea water is stable?

Give the SI unit of Co-efficient of viscosity.

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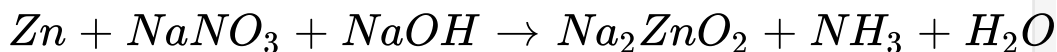**36.** Discuss the conditions for spontaneity of a

process .

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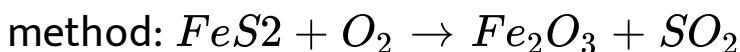**37.** Classify system. Give example of each kind.

38. Balance the equation by ion-electron method :

$$Zn + NaNO_3 + NaOH \rightarrow Na_2ZnO_2 + NH_3 + H_2O$$

39. Balance the equation by oxidation Number method: $FeS2 + O_2 \rightarrow Fe_2O_3 + SO_2$
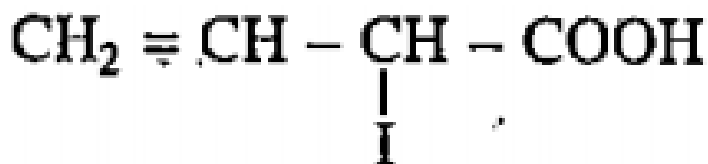
40. Discuss Clark process for softening water.

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41. Why K & Cs is used in photocell instead Li? Find

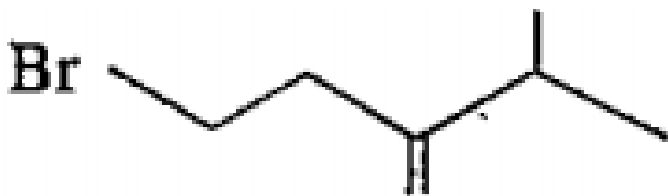oxidation number for K and O in KO_2

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42. Give IUPAC name for the organic Compound:-

$$CH_2 = CH - CH - COOH$$
$$\vert$$
$$I$$

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43. Give IUPAC name for the' organic Compound:-

44. Find out K_p / K_c for:

$$CO(g) + \frac{1}{/}2O_2(g) \rightleftharpoons CO_2(g).$$
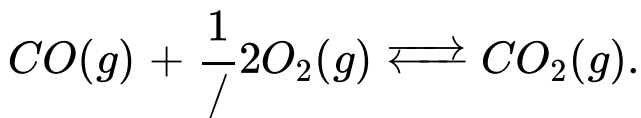
45. What do you mean by indicator? State the indicator used for neutral-izing strong acid by. weak base why Cu^{2+} give precipitate i of sulphide in acidic and basic medium respectively?

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46. Explain whether the ionisation enthalpy higher, for alkali metal as compare to alkaline earth metal.

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47. What is found when Mg-strip is heated in open air?

48. Write with balanced chemical equation what happens when Cl_2 is passed through worm $Ca(OH)_2$ solution.
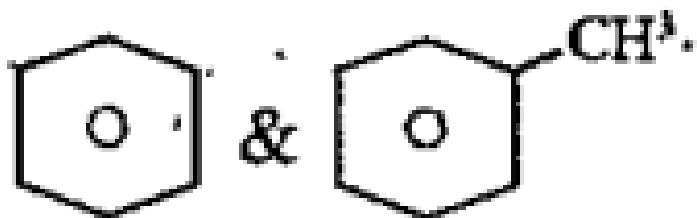
49. Why the temperature is not kept above $1000°C$ to get CaO form $CaCO_3$? What is slaking of lime?

What is sodalime? State one use of it?

50. How would you differentiate. Why wurtz reaction is not good for synlheis of alkane containing odd number Carbon atoms? What is used in Clemmenson reduction?