



CHEMISTRY

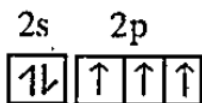
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MODEL QUESTION PAPER 18

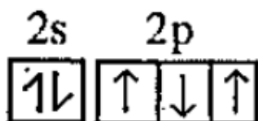
Exercise

1. Hund's Rule obeyed in

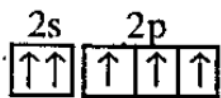
A.



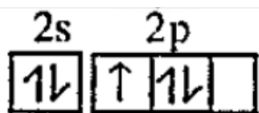
B.



C.



D.



Answer:

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2. Which Compound does not exist theoretically

A. SF_4

B. OF_4

C. OF_2

D. O_2F_2

Answer:

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3. Which one is least ionic

A. AgCl

B. CaCl_2

C. KCl

D. BaCl_2

Answer:

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4. 1-Centipoise equal to.

A. 10^{-2} poise

B. 10^{-1} poise

C. 10^{-3} poise

D. 10^{-6} poise

Answer:



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5. Heat of neutralization for strong acid and strong base —

A. 14.0 KCal

B. 4.3 KCal

C. 17.4 KCal

D. 14.9 KCal

Answer:



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6. Internal energy is —

- A. Kinetice energy
- B. Potential energy
- C. Kinetic + potential energy
- D. Heat energy

Answer:



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7. For the equilibrium $N_2(g) + O_2(g) = 2NO(g)$

- A. No effect of pressure
- B. No effect of volume

C. No effect of Catalyst

D. No effect of heat

Answer:

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8. Which one is the lightest —

A. Ca

B. Cu

C. Hg

D. Fe

Answer:

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9. Which one is alkaline earth element?

A. Na

B. Cs

C. Mg

D. Rb

Answer:



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10. Which one shows dynamic isomerism

A. Metamer

B. Positional

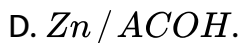
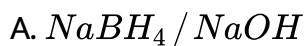
C. Tautomerism

D. Geometric isomerism

Answer:

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11. The reagent used for demercuration process.



Answer:

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12. Which one is not an aromatic

A. Pyridine

B. Thiophen

C. Anthracene

D. Cyclooctatetraene

Answer:



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13. Which Carbocation has highest stability —

A. 1°

B. 2°

C. 3°

D. Benzyllic

Answer:



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14. Hallons damages —

A. Soil

B. Atmosphere

C. water

D. Agriculture

Answer:



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15. Equivalent weight of an element having atomic weight 30 and valency 3 is?

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16. In which block element lanthanoid Contraction observe?

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17. Name the element having highest electron affinity.

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18. Which type of property internal energy is ?

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19. Which one is the correct unit of entropy?

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20. Write the equation for the determination of Nitrogen in Lassign test.

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21. If the atomic weight of the Metal M be m in M_2O_3 find its equivalent weight.

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22. Illustrate with example law of multiple proportion.

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23. Give the difference between orbit and orbital.

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24. Calculate the frequency of the light emitted when an electron jumps from $n=3$ to $n=1$ [$R = 1096789\text{cm}^{-1}$]

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25. How would you synthesise Borax from colemanite.

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26. Compare the acidic nature of the oxides of Group 13 elements.

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27. Which one is less basic methylamine and aniline.

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28. What is particulate matter give example.

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29. If the wave length and energy of an electron be λ and E then show that $E = h^2 / 2m\lambda^2$

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30. Write one differences between-particle and wave.

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31. Derive de Broglies wave particle duality eqn. Which quantum number is independent form others?

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32. Arrange with proper expiation in ascending order of Basicity of the following oxides. MgO , ZnO , CaO , Na_2O

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33. Find the position of the element having atomic number 21 in the periodic table (modern) Indicate the block in which it comes?

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34. What is σ and π bond? Which one is stronger among them?

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35. The bond length and dipole moment of the covalent compound AB is $1.2\overset{\circ}{\text{A}}$ and 1.24D . Find the covalent character of the compound.

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36. Write the Vander Walls equation for n'mole of the real gas.

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37. For the following reaction at 298K



$\Delta H = 300 \text{ kJ mol}^{-1}$ and $\Delta S = 0.2 \text{ kJ K}^{-1}\text{mol}^{-1}$ At what

temperature will the reaction become spontaneous considering

ΔH and ΔS to be constant over the temperature range?

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38. What is state function? Give example what do you mean by internal energy?

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39. Balance the equation by oxidation number method.



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40. What is the oxidation state of Cr in CrO_5 ?

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41. What is volume strength? Which one is more powerful 10 volume and 10% H_2O_2 solution.

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42. Classify the hydrides into Covalent, Interstitial, electron deficient, electron rich ionic. FeH , CuH , B_2H_6 , CaH_2

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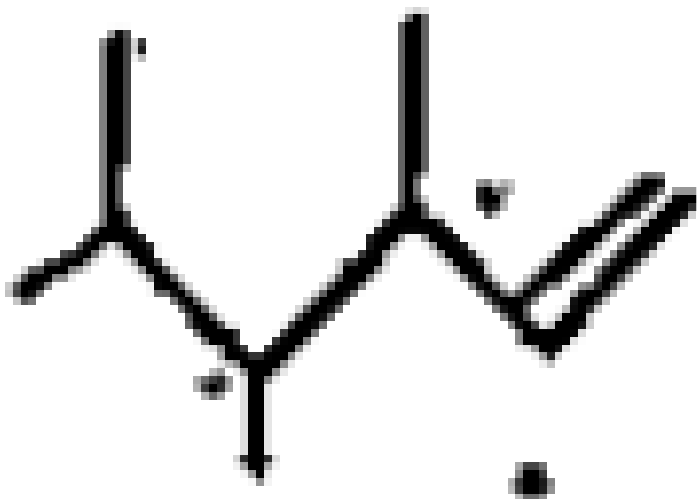
43. State two reasons for abnormal behaviour of Be.

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44. Why BeF_2 is highly soluble in water.

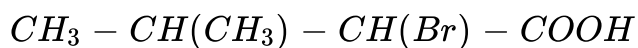
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45. Given IUPAC name of the following Compound.



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46. Given IUPAC name of the following Compound.



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47. How would you determine the presence of sulphur in organic compound.

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48. When NH_4SCN is added to the aqueous solution of $FeCl_3$ the solution turns red but with addition of NH_4Cl the red coloration. Explain. Shall it give same result if $CaCO_3$ is heated in an open and closed container separately?

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49. State the nature of CO, GeO, SnO, & PbO. Which allotrope of carbon is used to make super conductor. Why Co can't be dried using concentrated H_2SO_4 .



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50. What is per halosilanes? How would you prepare per halosilanes.

Write one use of silica gel?

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51. Identify the Compound which on Ozonolysis gives Methanal and propanal. Write with example Markonikov's rule.

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