# *New Style* MODEL TEST PAPER–5

## CLASS—XII (H.P.)

## CHEMISTRY

**Time Allowed : 3 Hours** **Maximum Marks : 60**

***Special Instructions :*** Same as in Model Test Paper—1.

**1.** Electrolysis of molten sodium chloride leads to the formation of :

(*a*) sodium and hydrogen
(*b*) hydrogen and oxygen
(*c*) sodium and chlorine
(*d*) sodium and oxygen.

**2.** The rate constant of a reaction is $1.2 \times 10^{-5}$ J $mol^{-2}$ $L^2$ $s^{-1}$ . The order of the reaction is

(*a*) zero (*b*) 1
(*c*) 2 (*d*) 3.

**3.** In a mixture, A and B compounds share negative deviation as :

(*a*) $\Delta V_{mix} > 0$
(*b*) $\Delta V_{mix} < 0$
(*c*) A – B interaction is weaker than A – A and B – B interactions.
(*d*) None of the above reasons are correct.

**4.** For a galvanic cell $\Delta G$ is

(*a*) –ve (*b*) +ve
(*c*) zero (*d*) None of these.

**5.** If a salt bridge is removed between the half cells, the voltage :

(*a*) drops to zero
(*b*) doesn't change
(*c*) increases rapidly
(*d*) increases gradually.

**6.** In which of the following complexes the metal ion is in zero oxidation state :

(*a*) $Mn_2 (CO)_{10}$ (*b*) $Zn_2 [Fe(CN)_6]$
(*c*) $[Cu (NH_3)_4] Cl_2$ (*d*) $[Ag (NH_3)_2 Cl$.

**7.** Give one example of third order reaction.

**8.** What is the peptide bond ? Give one example.

**9.** What are non-stoichiometric compound ?

**10.** Define temperature coefficient.

**11.** Which is more acidic out of

$CH_3 - \underset{\displaystyle Cl}{\underset{|}{CH}} - COOH$ and $\underset{\displaystyle Cl}{\underset{|}{CH_2}} - CH_2 - COOH$ ?

**12.** Define Frenkel and Schottky defects.

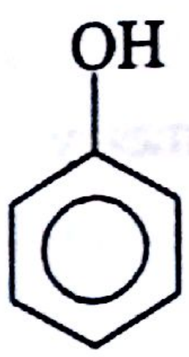
**13.** An element occurs in bcc structure with cell edge of 144 pm. The density of the element is 3.6 g $cm^{-3}$. Calculate the number of atoms in one gram of the element.

**14.** Discuss the nature of the deviation when ethyl alcohol and water are mixed with each other.

15. Define lanthanide contraction and give its cause.
16. Distinguish between electrorefinary and electrometallurgy.
17. Give two limitations of Ellinghan diagrams.
18. Write the structural formula of the organic compounds A, B and C and name of the reagent D in the following conversion :

$$A + C_2H_5MgBr \xrightarrow[H_2O]{H^+} C_2H_5-\underset{\displaystyle CH_3}{\overset{\displaystyle CH_3}{\overset{|}{\underset{|}{C}}}}-OH \xrightarrow[\Delta]{\text{Conc. } H_2SO_4} B \xrightarrow[\text{Peroxide}]{HBr} C$$

19. How is corrosion caused ? Discuss one method to prevent corrosion.
20. Arrange the following in order of increasing acid strength and give reasons for the same.


(I)


(II)


(III)

21. How will you distinguish between step growth and chain growth polymerisation ? How is bakelite synthesised ?
22. (*a*) What is the pH range for the proper functioning of blood ? How is it obtained.
    (*b*) What is the disease caused by the deficiency of vitamin K ?
23. How will you differentiate between DNA and RNA ? Discuss the denaturation of proteins ?
24. Describe the reactions occurring in blast furnace during the extraction of iron from haematite ore.
25. (*a*) How is the stability of the co-ordination complexes compared ?
    (*b*) What are homogeneous catalysts ? Give an example.
26. (*a*) Give the chemistry of Tollen's reagent test for aldehydes.
    (*b*) What is diazotisation reaction ?
    (*c*) Give a test to distinguish between ethyl amine and diethyl amine.
    (*d*) What is the structure of carbonyl group ?
27. Explain the following about transition metals.
    (*a*) There is very little change in the atomic radii along a transition series.
    (*b*) They have very high enthalpy of atomisation.
    (*c*) They have tendency to form alloys.
    (*d*) They have more variable oxidation states than the lanthanides.
28. (*a*) Explain
        (*i*) HVZ reaction.
        (*ii*) Trans-esterification.
    (*b*) How will you convert acetic acid into
        (*i*) Malonic acid
        (*ii*) Glycine
        (*iii*) Chloroacetic acid ?