81. Hydrogen bonding in water is responsible for which of the given properties?
(1) High value of surface tension (2) High latent heat of evaporation
(3) High boiling point (4) All of these

82. The number of Co - ordinate covalent bonded water molecules in $CuSO_4.5H_2O$
(1) 1 (2) 2 (3) 4 (4) 5

83. Why does H^+ ion always get associated with other atoms or molecules?
(1) Ionisation enthalpy of hydrogen resembles that of alkali metals.
(2) Its reactivity is similar to halogens.
(3) It resembles both alkali metals and halogens.
(4) Loss of an electron from hydrogen atom results in a nucleus of very small size as compared to other atoms or ions. Due to smal size it cannot exist free.

84. Hydrogen peroxide is _____.
(1) an oxidising agent (2) a reducing agent
(3) both an oxidising and a reducing agent (4) neither oxidising nor reducing agent

85. Elements of which of the following group(s) of periodic table do not form hydrides.
(1) Groups 7, 8, 9 (2) Group 13 (3) Groups 15, 16, 17 (4) Group 14

SECTION-B

86. Which of the following element forms mettalic hydride
(1)Cr (2)Mn (3)Fe (4)Co

87. Match Column I with Column II for the given properties/applications mentioned therein.

Column I	**Column II**
(i) H	(a) Used in the name of perhydrol.
(ii) H_2	(b) Can be reduced to dihydrogen by NaH.
(iii) H_2O	(c) Can be used in hydroformylation of alkene.
(iv) H_2O_2	(d) Can be used in cutting and welding

(1) (i) $\rightarrow$ (a); (ii) $\rightarrow$ (b); (iii) $\rightarrow$ (c); (iv) $\rightarrow$ (d)
(2) (i) $\rightarrow$ (d); (ii) $\rightarrow$ (c); (iii) $\rightarrow$ (b); (iv) $\rightarrow$ (a)
(3) (i) $\rightarrow$ (a); (ii) $\rightarrow$ (b); (iii) $\rightarrow$ (d); (iv) $\rightarrow$ (c)
(4) (i) $\rightarrow$ (d); (ii) $\rightarrow$ (c); (iii) $\rightarrow$ (a); (iv) $\rightarrow$ (b)

88. Which of the following statements concerning protium, deuterium and tritium is not true?
(1) They are isotopes of each other
(2) They have similar electronic configurations
(3) They exist in the nature in the ratio of 1 : 2 : 3 respectively
(4) Their mass numbers are in the ratio 1 : 2 : 3 respectively

89. Water gas is
$(1)CO + H_2$ $(2)CO_2 + H_2$ $(3)CO + H_2O$ $(4)CO_2 + N_2$

90. High purity dihydrogen is obtained by electrolysing
(1) Warm aqueous barium hydroxide (2) Brine solution
(3) Acidified sulphate solution (4) Water gas