



DPB – 510 (Che)

M.Sc. Final Degree Examination, Aug./Sept. 2010

(Directorate of Distance Education)

CHEMISTRY

(Freshers)

Analytical Chemistry – II

Time : 3 Hours

Max. Marks : 85

- Note :*
- 1) Answer any **ELEVEN** Subdivisions from Part A, **THREE full** questions from Part B and Part C.
  - 2) Figures to the **right** indicate marks.

PART – A

(11×2=22)

1. a) Distinguish  $\sigma_h$  from  $\sigma_v$  mirror plane.  
b) Explain the significance of molar absorptivity.  
c) Identify the symmetry elements present in
  - i) benzene
  - ii)  $[\text{Pt Cl}_4]^{2-}$
- d) In spite of having no d-electrons in manganese,  $\text{KMnO}_4$  is intensely coloured. Why ?
- e) In acidic solution, triethyl amine shows no absorption due to  $n \rightarrow \pi^*$  transition.
- f) Explain the terms : 'Hardware' and 'Software'.
- g) What is g-value ? Explain its significance.
- h) Even though  $\text{C}_2\text{H}_5\text{OH}$  and  $\text{CH}_3\text{OCH}_3$  are isomers, former gives 3 peaks and later gives single peak in proton NMR. Why ?

P.T.O.