CHEMISTRY Honors Practical Examination' 2021

Gurudas College Centre

Paper- DSE-A2-P

(Application of Computers in Chemistry)

FM-30 Time: 2hr

Determination of molar extinction coefficient from absorbance data using LINEST function.

1. Write down the theory mentioning the following points:
   (a) Statement of Lambert-Beer's law and its use to get the molar extinction coefficient.
   (b) Factors on which molar extinction coefficient depends.
   (c) Unit of molar extinction coefficient.
   (d) Derive proper relation between % T and absorbance.
   (e) Derive the principle of drawing best-fit straight line using linear least square fit analysis. How is it used in excel?

2. From the given data evaluate molar extinction coefficient of a certain absorbing substance using LINEST function.

Concentration (M)x10^{-4}	%T
3	87
4	84
5	76
7	66
8	62
9	57
10	51

(5+2+1+2+10) + 10