

Time: 40 min
Total Marks: 10

[Show all steps and No part marking for numerical problems]

1. How much amount of a 20gm compound ($K_p=1$) would be recovered into organic phase from water after 4 times of extraction?
2. Calculate the partition coefficient (K_p) of a compound, when 5 gm of the compound present in 200 ml water was shaken with 10 ml of acetone and 4 gm of the compound was transferred to acetone layer only.
3. Show the following Plots **a)** $\log K_D$ Vs pH and **b)** % Dissociation (D) vs pH absorption for the drug absorption in stomach and GI, respectively.
4. What are the phases of purification of mouse **IgG** antibodies by affinity chromatography by FPLC? Show the chromatogram of the phases.
5. How do you identify **p-cresol** by a chromatographic technique in a mixture contained (a) phenol, (b) o-cresol, (c) p-cresol, (d) m-cresol, (e) 2,4-xyleneol, and (f) 2,5-xyleneol?

[Marks: 2+2+2+2+2= 10]
