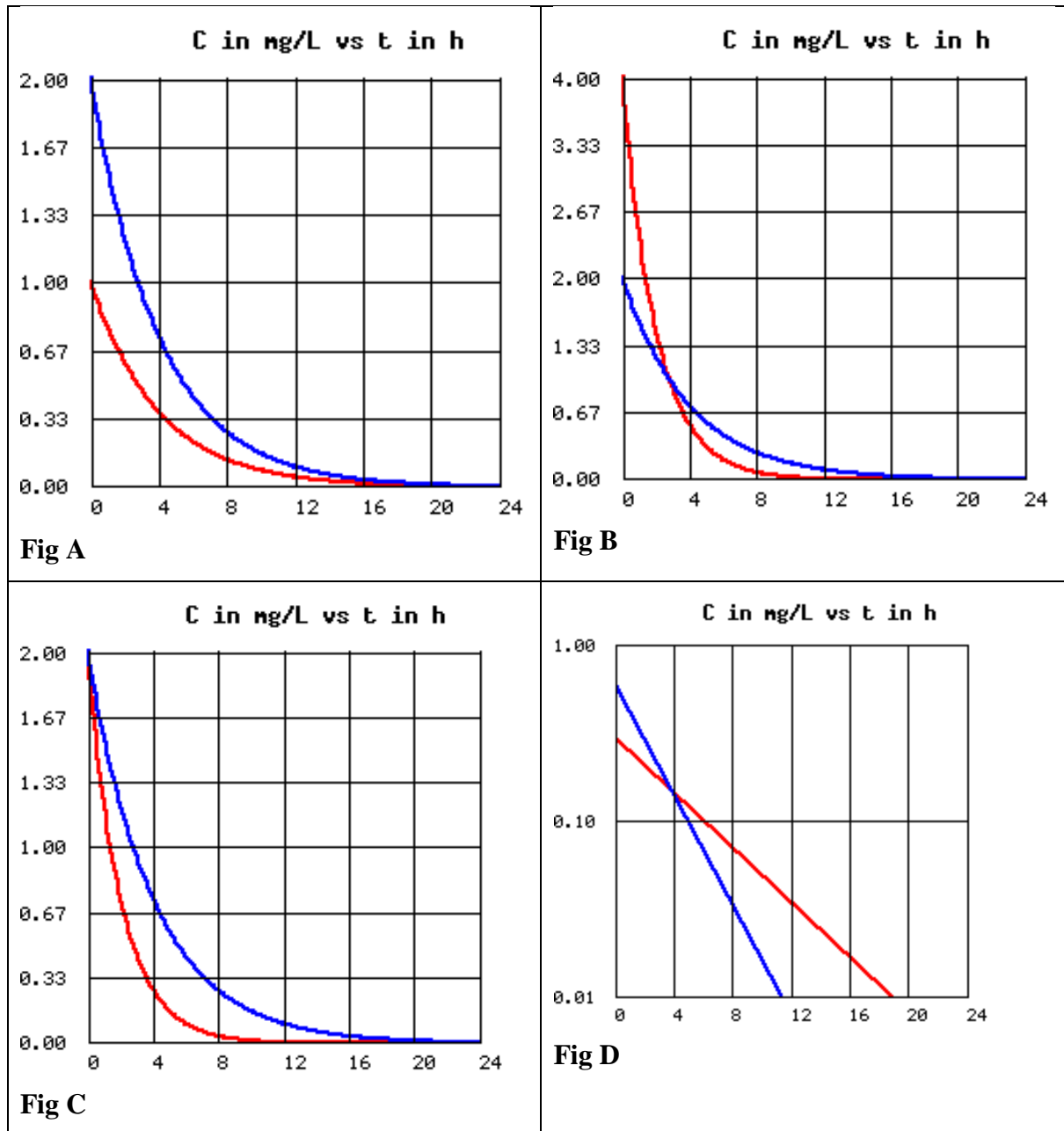


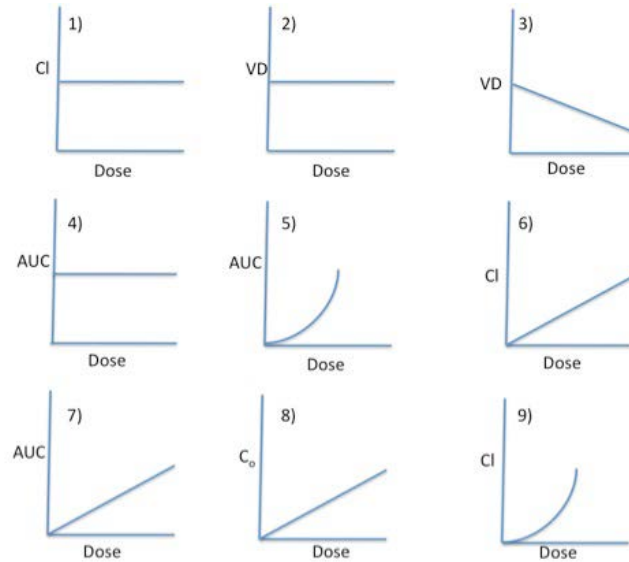
- 1) Identify the Pharmacokinetic metrics: **Dose**, **Volume of Distribution** or the **Clearance** (**only pick one per scenario**), whose changes would determine the differences observed in the following concentration time profiles. (eg: The structure of the answer would look like – The changes in the profiles of Fig A would be because of ____ parameter) (4 points)



Ans) Fig A – **Dose**; Fig B – **Vd**; Fig C – **Clearance**; Fig D – **Vd** (1point each)

Problem 2

Select the schemes that follow linear pharmacokinetics (4 points)



(Please award 1 point for each correct selection)

Ans) 1,2,7,8 (Clearance and Vd do not change with dose and AUC and C_o increase linearly with dose)

Problem 3 (2 points)

A company had manufactured two formulations – FAST and SLOW (sustained release) for a given Drug A. The absorption rate constants of formulation FAST and SLOW are 1 h^{-1} and 0.05 h^{-1} , respectively. Plot the concentration-time-profile from 0-24 h for both formulations when the same dose of both formulations is given. Which formulation shows a “flip-flop”-kinetic?

