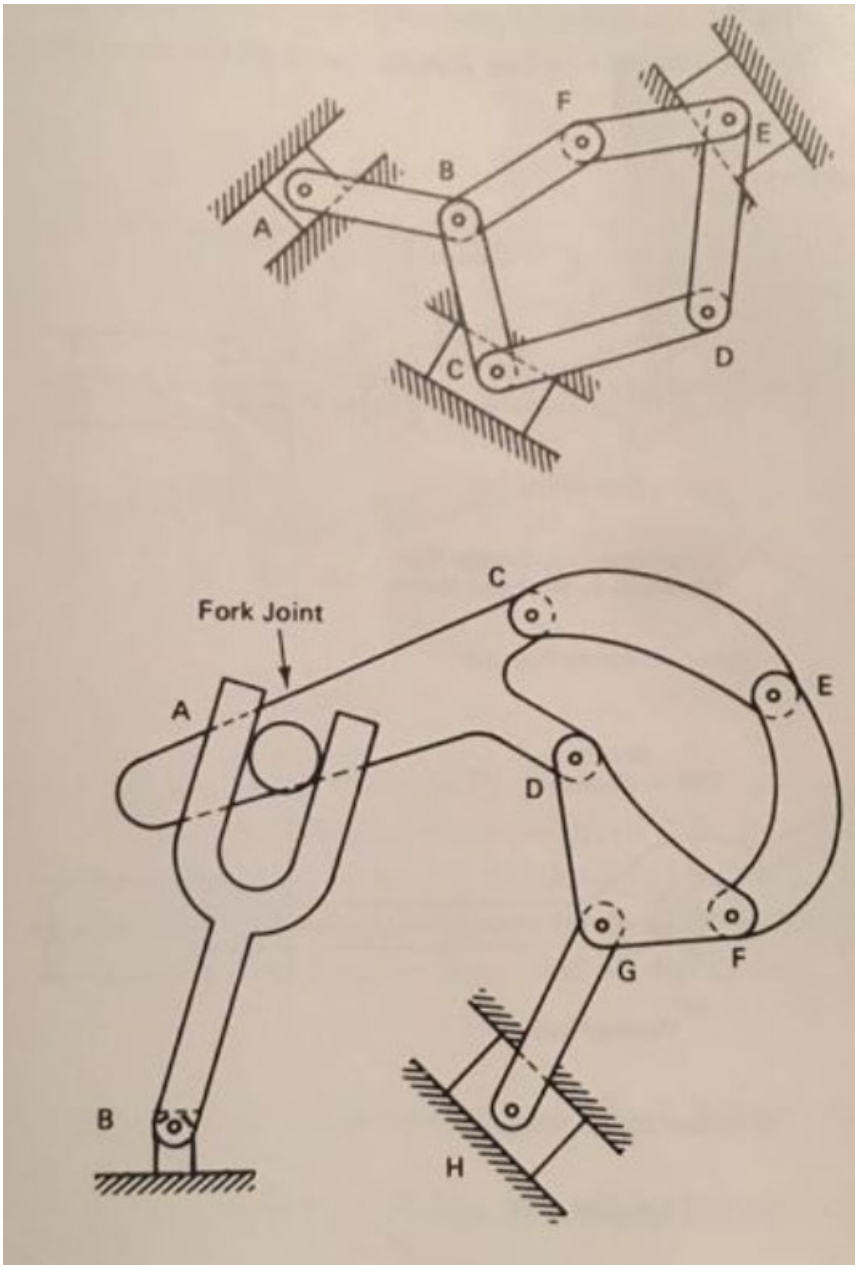
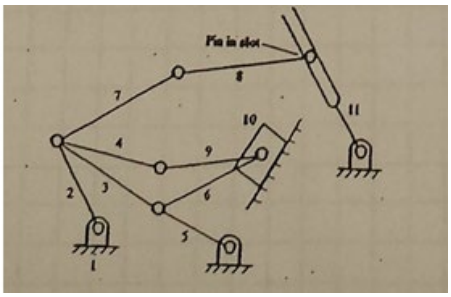
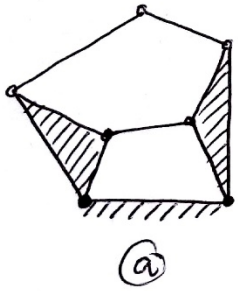
Assignment 1 ECC437

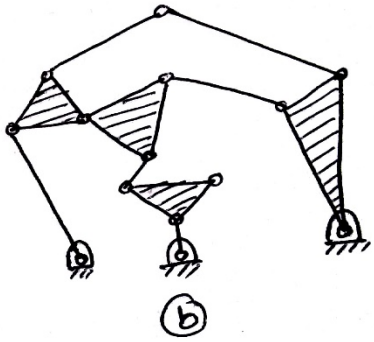
1.determin degree of freedom of following systems.





1. What do you mean by degree of freedom (DOF) of a kinematic pair? How pairs are classified? Give examples.
2. What is degree of freedom of a mechanism? How is it determined? Find the DOF for following chains and find whether they are mechanisms, structures or superstructures:





3. Define Grashof's law. State how it is helpful in classifying the four link mechanisms into different types.
4. Discuss the inversions of slider-crank mechanism. Discuss two applications of these inversions.
5. Figure shows some four link mechanisms in which the figures indicate the dimensions in standard units of length. Find out the type of each mechanism with necessary explanation: