# ASSIGNMENT 1

1. What is meant by inversions of mechanism? Sketch double slider cranks chain and draws its inversion.
2. Explain mechanisms: (a) Hart Mechanism (b) Roberts Mechanism.
3. Explain Paucellier's Mechanism.
4. A crank and slotted lever mechanism used in a shaper has a centre distance of 300mm between the centre of oscillation of the slotted lever and the centre of Rotation of the crank. The radius of the cranks is 120mm.Find the ratio of the Time of cutting to the time of return stroke.
5. Write notes on complete and incomplete constraints motion in lower and Higher Pairs, illustrate your answer with neat sketches.
6. Define the following terms: 1. Link 2. Locked Chain 3. Higher Pair 4. Ternary Joint 5. Degrees of freedom 6. Constrained Motion 7. Quaternary Link
7. Sketch and explain any two inversions of double slider crank chain.
8. Describe briefly types of Constrained Motions.
9. Explain degree of freedom with neat sketch. Also explain Grumbler's criterion.
10. Define: Kinematic link, Kinematic pair, Kinematic chain
11. What are quick return motion mechanisms? Where they are used? Discuss the functioning of any one of them.
12. State and explain Grashof's criterion.
13. Explain various inversion of a slider crank mechanism with the help of examples.
14. Explain the types of instantaneous centers.
15. Differentiate between Machine and Structure with suitable example.
16. Sketch and explain the various inversions of a Double slider crank chain
17. Explain Klein's construction method in detail with neat sketch.
18. Draw a neat sketch of following mechanism with proper notation of the links. 1. Four bar crank and lever mechanism. 2. Four bar rocker- rocker mechanism