Explain different kinds of kinematic pairs giving example for each one of them. L 2

(OR)

2. Explain the terms: 1. Lower pair, 2. Higher pair, 3. Kinematic chain, and 4. Inversion. L2

3. Write the relation between the number of instantaneous centres and the number of links in a mechanism ? L1

(OR)

4.Explain how the velocities of a slider and the connecting rod are obtained in a slider crank mechanism ? L2

5. Explain the term kinematic link. Give the classification of kinematic link.? L2

(OR)

6. What is a machine? Giving example, differentiate between a machine and a structure? L2

1.In a four bar chain ABCD, AD is fixed and is 150 mm long. The crank AB is 40 mm long and rotates at 120 r.p.m. clockwise, while the link CD = 80 mm oscillates about D. BC and AD are of equal length. Find the angular velocity of link CD when angle BAD = 60 L5

(OR)

2. Locate all the instantaneous centres of the slider crank mechanism as shown in Fig. 6.12. The lengths of crank OB and connecting rod AB are 100 mm and 400 mm respectively. If the crank rotates clockwise with an angular velocity of 10 rad/s, find: 1. Velocity of the slider A, and 2. Angular velocity of the connecting rod AB. L4

3. Sketch and explain any two inversions of a double slider crank chain. L3

(OR)

4. Sketch and describe the four bar chain mechanism. Why it is considered to be the basic chain? L3

5. Write about the Classification of Kinematic Pairs? L2

(OR)

6.Explain about the Inversions of Double Slider Crank Chain ? L2

. Explain the term kinematic link. Give the classification of kinematic link? L 2

(OR)

2. What is a machine ? Giving example, differentiate between a machine and a structure? L 2

3. Locate all the instantaneous centres of the slider crank mechanism as shown in Fig. 6.12. The lengths of crank OB and connecting rod AB are 100 mm and 400 mm respectively. If the crank rotates clockwise with an angular velocity of 10 rad/s, find: 1. Velocity of the slider A, and 2. Angular velocity of the connecting rod AB? L 4

(OR)

4.Explain how the velocities of a slider and the connecting rod are obtained in a slider crank mechanism? L3

5. Explain different kinds of kinematic pairs giving example for each one of them? L2

(OR)

4. Explain the terms : 1. Lower pair, 2. Higher pair, 3. Kinematic chain, and 4. Inversion? L2

1. In a pin jointed four bar mechanisms, as shown in Fig. 6.9, AB = 300 mm, BC = CD = 360 mm, and AD = 600 mm. The angle BAD = 60°. The crank AB rotates uniformly at 100 r.p.m. Locate all the instantaneous centres and find the angular velocity of the link BC? .L4

(OR)

1. Discuss the three types of instantaneous centres for a mechanism? L3
2. What do you understand by the instantaneous centre of rotation (centro) in kinematic of machines? Answer briefly? L3

(OR)

1. Explain different kinds of kinematic pairs giving example for each one of them? L2
2. Sketch and explain any two inversions of a double slider crank chain? L2

(OR)

1. Write about the Whitworth quick return motion mechanism and Elliptical trammels? L3