Sessional-1: Kinematics of Mechanism
B.Tech Mechanical 4th Sem

Time: 90 Min

Max marks: 15

Note: Drawing Sheet is required for Qn 3 (a), Reply all Questions with relevant diagrams

Q1 (a) Write Grasshof's law and state how it is useful to classify 4 bar linkage. [2]

(b) Define inversion. Describe all inversions and their application of Single and double slider crank mechanism [3]

Q2 (a) Find DOF of the given diagram of fig 1 [3]

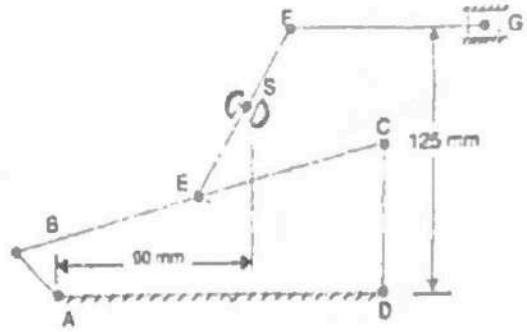

Fig1

(b) What is Instantaneous Centre. Explain Knnedy rule of IC positioning [2]

Q3 (a) The lengths of various links of a mechanism, as shown in Fig. 2, are: OA = 0.3 m ; AB = 1 m ; CD = 0.8 m ; and $AC = CB$. Determine, for the given configuration, the velocity of the slider D if the crank OA rotates at 60 r.p.m. in the clockwise direction. Also find the angular velocity of the link CD. [4]

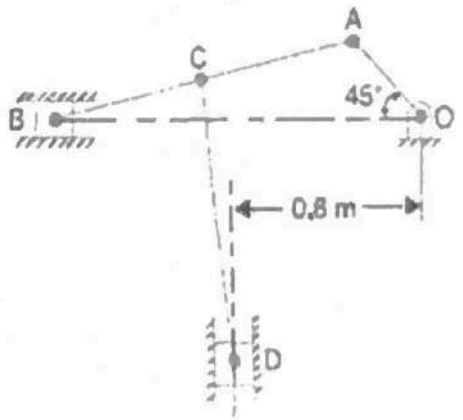

Fig2

(b) A mechanism is having 6 links, write its all IC's in sequence [1]