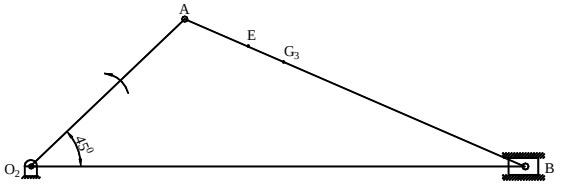
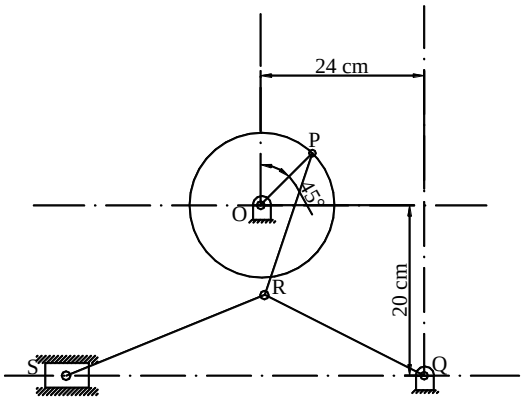
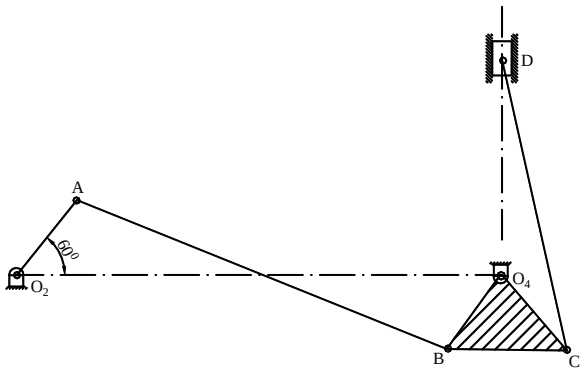
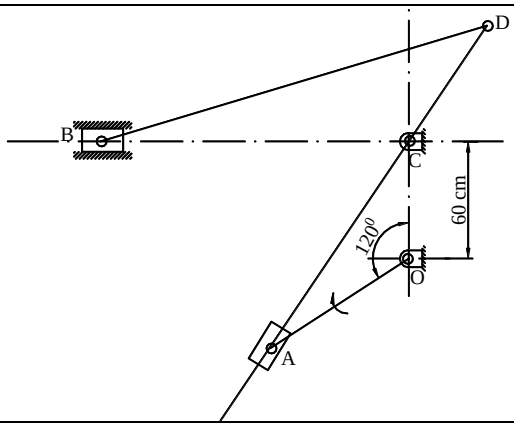
NATIONAL INSTITUTE OF TECHNOLOGY DURGAPUR, INDIA
Department of Mechanical Engineering

Subject: Mechanism Laboratory (MES 453)

Module # 1: Kinematic Analysis of Plane Mechanisms

- Graphical Methods using traditional drafting tools and AutoCAD

Draw Velocity and Acceleration diagram of following Mechanisms

Prob. 1	Given O_2A=12 cm AB=34 cm AE=4 cm AG_3=9 cm $\omega_{O2\,A}$=120rad/s Counterclockwise		Find out V_B, V_E, V_{G3}, ω_{BA} and A_B, A_E, A_{G3} α_{BA}
Prob.2	OP=8 cm PR=18 cm SR=27 QR=24 cm ω_{op}=120 rpm Clockwise		V_S, V_R, ω_{SR} and A_S, A_R, α_{SR}
Prob.3	O_2A=3 cm AB=10 cm O_4B=4 cm O_4C=4 cm BC=5 cm CD=10 cm O_2O_4=11 cm ω_{O2A}=25 rad/s Clockwise		V_B, V_C,V_D, ω_{BA}, ω_{DC} and A_B, A_C, A_D α_{BA}, α_{DC}
Prob.4	OA=75 cm BD=100 cm CD=30 cm ω_{OA}=10π rad/s Clockwise		V_B, ω_{BD} and A_B, α_{BD}