ME302: ENGINEERING MECHANICS – II (3-1-3)
[Chosen by some other departments except ME & IPE]
Theory: 100 Sessinal: 50 Laboratory: 50 Time: 3hours

1. <u>Kinematics:</u> Link, Pair, chain mechanism and inversions. Simple mechanism (description only), Crank slider, four bar, st. line, steering. Simple velocity and acceleration diagrams.
2. <u>Machine elements:</u>
a) <u>Governor:</u> functions, type expressions for height of watt and porter governors.
b) <u>Flywheel:</u> Fluctuations of energy, Co-efficient of fluctuation of energy and speed, function of flywheel.
c) <u>Brake and Clutch:</u> Working principles only. Simple problems illustrating use of above.
3. <u>Balancing:</u> Simple problems of rotary, primary unbalance, graphical solution.
4. <u>Transmission of Rotary drive:</u>
a) <u>Belt and Rope Drive:</u> Relations for torque, maximum power transmission, length of open cross belting slip, crowing of pulley.
b) <u>Gear train:</u> Nomenclature , types – simple, compound , epicyclic gear train including reverted gear train. Simple description of automobile gear train.

 Laboratory: Six experiments covering the syllabus.

Books:
1. Theory of Machines by J. Lal , Metropolitan Books Ltd.
2. Theory of Machines and Mechanisms(3rd edition) by J.J.Uicker, Jr;G.R.Pennock & J.E.Shigley, Oxford University Press.
3. Theory of Machines by V.P.Singh,
4. Theory of Machines by A. Shariff