

SHANTILAL SHAH ENGINEERING COLLEGE, BHAVNAGAR

MECHANICAL ENGINEERING DEPARTMENT

B.E. 5th Semester, Academic Year: 2021-22 (ODD)

Subject: DYNAMICS OF MACHINERY

Subject Code: 3151911

PAT Syllabus – March 2021

Sr. No.	Topics	CO Covered
1	Dynamic force analysis of mechanisms: Introduction, D’alembert’s principle, equivalent offset inertia force, velocity & acceleration of piston, angular velocity & angular acceleration of connecting rod, engine force analysis, dynamically equivalent system inertia of the connecting rod, inertia force in reciprocating engines.	C01
2	Turning moment diagrams and flywheel Turning moment diagram for various type of engines, fluctuation of energy, fluctuation of speed, flywheel, energy stored in flywheel, dimensions of flywheel rims, flywheel in punching presses	C01
3	Balancing: Introduction, static balancing, dynamic balancing, transference of force from one plane to another plane, balancing of several masses in different planes	C02
4	Gyroscope: Angular velocity, angular acceleration, gyroscopic torque, gyroscopic effect on naval ships, aero plane, stability of an automobile, stability of two wheel vehicle	C03
5	Free vibrations and damped free vibrations: Types of vibrations, elements constituting vibration, spring mass system, free undamped vibrations, equation of motion, equivalent spring stiffness	C04

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Subject Convener
(DOM-3151911)