

GOVERNMENT POLYTECHNIC JAIPUR
LESSON PLAN
DESIGN OF MACHINE ELEMENTS (DME)

W e e k	Month	U n i t	Main Topic	Sub-topic 1	Sub-topic 2	H o u r s
1	July	I	Introduction to Design	Machine design philosophy, design procedure	Types of loads, stress, strain and design considerations	3
2	July	I	Failure Theories	Principal stresses, factor of safety	S-N curve, endurance limit, stress concentration	3
3	July	I	Engineering Materials	Material properties, IS standards	Elastic failure theories and numericals	3
4	August	I	Design Practice	Design data books and standardization	Design examples and applications	3
5	August	II	Machine Parts	Cotter, knuckle and turnbuckle joints	Levers, clamps, offset links and crank	3
6	August	II	Bearings	Sliding and rolling contact bearings	Life rating, static/dynamic load, selection	3
7	September	III	Shafts & Keys	Design of solid and hollow shafts	Keys, couplings and shaft rigidity	3
8	September	III	Couplings & Spur Gears	Muff, flange and bush-pin couplings	Lewis equation and gear design	3
9	October	IV	Power Screws	Thread profiles, efficiency and self-locking	Screw jack design and applications	3
10	October	IV	Springs	Helical, compression and tension springs	Stress, deflection and Wahl's factor	3
11	October	IV	Spring Applications	Leaf springs and governor springs	Design numericals	3
12	November	V	Fasteners	Bolted joints, welded joints	Uniform strength and eccentric loading	3
13	November	V	Ergonomics	Man-machine relationship	Equipment layout, safety and aesthetics	3
14	November	V	Design Practice	Component design problems	Drawing interpretation and revision	3
15	November	V	Revision	Important design formulae	Question discussion and course completion	3

Tot 45

Course Teacher

Jamejay Savangi

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