

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E Semester: 2

Mechanical Engineering (CAD/CAM)

Subject Name Automation in Production and Hydraulic Control

Sr.No	Course content
1.	AUTOMATION IN PRODUCTION
2.	Basics of automated work piece handling, preparation for automated handling, working principles and techniques, solution for feeding arrangements, vibratory feeder, transfer mechanisms, automated feed out of components.
3.	Construction elements for automation, concepts of transfer lines, unit built machines, Special Purpose Machines, Machining centers.
4	Assembly automation, automated packaging, automated inspection, use of pneumatic, hydraulic systems for automation.
5	HYDRAULIC CONTROL IN MACHINE TOOLS.
6	Hydraulic Principles- Elements of hydraulic system (Pumps, Filters, Seals, Valves, accumulators etc) Study of their functional and design characteristics.
7	Analysis and study of typical hydraulic circuits in M/C tools.
8	Design of systems for specific requirements, introduction to servo systems.
9	Maintenance of Hydraulic systems, Pneumatic & Hydro pneumatic circuits

REFERENCE BOOKS:-

1. Automation, Production System and Computer Aided Mfg – M.P. Groover.
2. Automatic assembly and product design – Geoffry Boothroyd.
3. Handbook of low cost automation techniques by H.A. Thomas.
4. Machine tool design – CMTI – Tata Mcgrowhill publication.
5. Hydraulic control of machine tools – EM Khaimoswitch – Pergamon press.
6. Machine tool design by N.K.Mehta.
7. Machine tool design–Acharkahn vol. II Vickers Sperry catalogue