

GUJARAT TECHNOLOGICAL UNIVERSITY
M.E. Mechanical (Production Engg.)
Semester: I

Subject Name: **Production Automation and CNC Technology**
Subject Code: **712803**

Sr. No.	Course Content
1	Concept and scope of industrial automation – automation strategies - devices, drives and control circuits in automation - Semi-automats, automats and transfer lines.
2	Mechanical, electrical, hydraulic, pneumatic, electronic & hybrid automation system. Comparative evaluation of automation system.
3	Concepts, features, fundamentals, advantages and classification of NC systems - input media - Design consideration of NC machine tools - machining centre - MCU functions.
4	Controls and System devices - Control loops of NC system - CNC concepts, reference pulse and sampled data techniques - microprocessor and CNC adaptive control – ACO and ACC systems.
5	Graphical Numerical Control - part programming - design of post processor..
6	Manual part programming. Computer aided part programming - post processor - APT programming - programming for CNC turning center, Machining center and CNC EDM and wire cut EDM

Reference Books:

1. Scrope Kalpakjian,, “Manufacturing processes for Engineering Materials”, Addison Wesley, 1997.
2. Radhakrishnan, P., “Computer Numerical Control Machines”, New Central Book Agencies, 1997.
3. Yoram Korem., “Computer control of Manufacturing systems”, Mc Graw Hill, 1986.
4. Engineering automation by solomon