

### **ME 312 Manufacturing Technology - II (3-0-0-6)**

Metal Cutting: Mechanics, tools (material, temperature, wear, and life considerations), geometry and chip formation; surface finish and machinability; optimization; Machine tool: Generation and machining principles; Setting and Operations on machines: lathe, milling (including indexing), shaping, slotting, planing, drilling, boring, broaching, grinding (cylindrical, surface, centreless), thread rolling and gear cutting machines; Tooling: Jigs and fixtures, principles of location and clamping; Batch production: CNC machines; Finishing: Microfinishing (honing, lapping, superfinishing); Unconventional methods: electro-chemical, electro-discharge, ultrasonic, LASER, electron beam, water jet machining etc.; Rapid prototyping and rapid tooling.

#### *Texts:*

- [1] A Ghosh and A K Mallik, Manufacturing Science, Wiley Eastern, 1986.
- [2] G K Lal, Introduction To Machining Science, New Age International Pvt Ltd., 2007.

#### *References:*

- [1] Production Technology, H M T Publication, Tata McGraw Hill, 1980.
- [2] M C Shaw, Metal Cutting Principles, MIT Press, 2004.
- [3] P K Mishra, Nonconventional Machining, Narosa Publishing House, 1997