SUBJECT NO-ME30604, SUBJECT NAME- MACHINES TOOLS AND MACHINING

LTP- 3-1-0,CRD- 4

SYLLABUS :-

Prerequisite Ã¢ÂÂWorkshop-2Machine tools: Concept and definition of machining and machine tools.. Concept of producing geometrical surfaces by generatrix and directrix. Kinematic systems and structures of conventional machine tools. Electromechanical and hydraulic drives and control of machine tools. Machine tool automation. Classification and specification of machine tools. Construction, working principle and application of various semi-automatic and automatic lathes. Flexible automation Ã¢ÂÂ need, principle and advantages. Basic constructional features, working principle and application of CNC machine tools, machining centre and FMS. Machining: Tool geometry, mechanism of chip formation. Mechanics of machining. Cutting temperature Ã¢ÂÂ causes, effects, estimation, measurement and control. Cutting fluid applications. Failure modes, wear and life of cutting tools. Cutting tool materials. Role of geometrical and process parameters and cutting fluid on machinability. Mechanics of grinding. Economy of machining and grinding. Special techniques and advanced technology of machining and grinding.