

SYLLABUS :-

Rapid Prototyping Prerequisite ;Non-traditional Manufacturing

ProcessesClassification of manufacturing processes, Different manufacturing systems, Introduction to rapid prototyping (RP), Need of RP in context of batch production, FMS and CIM and their application, Basic principles of RP, Steps in RP, Process chain in RP in integrated CAD CAM environment, Advantages of RP, Classification of different RP techniques based on raw materials, layering technique (2-D or 3-D) and energy sources: Process technology and comparative study of: Stereo-lithography (SL) with photo-polymerisation, SL with liquid thermal polymerisation, Solid foil polymerisation, Selective laser sintering, Selective powder binding, ballistic particle manufacturing both 2-D and 3-D, Fused deposition modelling, Shape melting, Laminated object manufacturing, Solid ground curing, Repetitive masking and deposition, Beam interference solidification, Holographic interference solidification, Special topic on RP using metallic alloys, Programming in RP, Modelling, Slicing, Internal hatching, Surface skin fills, Support structure.