Module 1

Chapter 1 : Computer Graphics 1-1 to 1-74

1.1 Introduction : Scope of CAD/CAM in product life cycle, CAD/CAM hardware and software, 2D and 3D computer graphics representation, Mapping of Geometric Models.

1.2 Parametric representation of curves and surfaces Synthetic Curves - Bezier curves, Hermite Curves, B-spline curves. Surface representation.

1.3 Solid Modeling : Constructive solid geometry (CSG), Boundary Representation (BRep), Wire Frame Modeling, Solid Modeling, Surface Modeling, Parametric Modeling, Feature based modeling, Constraint Based Modeling.

Module 5

5.1 Rapid Prototyping : Introduction, Classification of RP Processes, Advantages and disadvantages. RP Applications; in Design, Concept Models, Form and fit checking, Functional testing, CAD data verification, Rapid Tooling, and bio fabrication.

5.2 Working Principle, Application, Advantages and disadvantages : of Stereolithography Apparatus (SLA) Selective Laser Sintering (SLS), 3D Printing, Fused Deposition Modeling (FDM), and Laminated Object Manufacturing (LOM)

Module 6

6.1 Virtual Manufacturing : Introduction, Scope, Socio-economic Aspects and Future Trends

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