

Module Name (Mechanical Engineering)	Total Hours
3D Solid modelling and 3D printing	50

1	INTRODUCTION TO 3D SOLID MODELING IN AUTOCAD 2019	20 Hrs
	<ul style="list-style-type: none"> (a) Introduction about Autodesk Education Eco System and AutoCAD (b) Introduction of 2D Drafting, Layout setup, Type of Co-ordinate system, Drawing Creation (c) How to Work in 2D Drafting in AutoCAD 2019, Drawing Creation Advance , Drawing Modification (d) How to make Detail Drawing , Hatching , Dimensioning , Isometric Drawing Creation (e) How to Work in 3D Modelling in AutoCAD 2019, Parameter of 3 Dimension view, Wire frame Creation , Surface Model Creation , Solid Model Creation (f) How to Work in 3D Modelling visualization in AutoCAD 2019 , 3D to 2D Drawing Creation, Lighting, Material (g) Increase your speed in Productivity Tools in AutoCAD 2019, Use of Block, Library creation in AutoCAD, Definition of Attribute (h) Varioustypes of OUTPUT from AUTOCAD 2019, Sliding Show for Presentation, Printing & Plotting. 	
2	PARAMETRICS SOFTWARE LIKE (SOLID WORKS, PRO-E, UNIGRAPHICS)	20 Hrs
	<ul style="list-style-type: none"> (a) Overview of Advance Modelling Software SOLIDWORKS, Introduction about Solid works and Its Different Module (b) Design with Solid works, How to Work in Parametric technology, Sketching. (c) How to Work in Solid works, Part Modelling, Feature Command, Basic Part Modelling, Material, Apply Properties. (d) How to work in Assembly Modelling, Assembly Modelling, Exploded view and Motion Animation. (e) How to make manufacturing drawing, Model View, Assembly Drawing, Bill of Material, GD & T (f) How to Work in Solidworks Sheet metal Design; Convert to sheet metal,forming tools, Sheet metal drawings. (g) How to Work in Solidworks Mould Design, Draft Analysis, Undercut Analysis, Scale, Parting Lines, Shut-off Surfaces, Parting Surface, Creating mould Tooling 	
3	3D PRINTING PREPARATION AND DEMONSTRATION	10 Hrs
	<ul style="list-style-type: none"> (a) Introduction and Evolution of 3D Printing technology. (b) Basic s of additive manufacturing. (c) General Procedure of 3D Printing. (d) 3 D CAD file formats, Stereo lithography STL files. (e) Various printing technologies (SLA, SLS, FDM, Poly Jet Printing). (f) Live demonstration of machine. (g) Object placement and object analysis. (h) Print Setting. 	