SARDAR PATEL UNIVERSITY
Programme & Subject: M.Sc (Defence Science)
Semester: II
Syllabus with Effect from: June - 2014

Paper Code: PT02EDSC01	**Total Credit: 4**
Title Of Paper: Computer Aided Design (CAD) & Computer Aided Manufacturing (CAM) - Instrumentation	

Unit	Description in Detail	Weightage (%)
I & II	**Introduction to Computer Graphics Fundamentals and CAD** Output primitives (points, lines, curves, etc.) Introduction to basic 2-D transformations (translation, scaling, rotators) Introduction to windowing and viewports Introduction to the concept of CAD, fundamental of CAD Creating and manipulating designs and drawings of various objects Examples and important features of CAD software	
III & IV	**Modeling, Assembly and CAM** Introduction to solid modeling, rapid prototyping Creating wireframe models Surface modeling Assembly of parts Introduction to the concept of CAM, Fundamentals of CAM Examples and important features of CAM software	
Labe Exercises for CAD/CAM		
	Working with commands and Simple Objects Understanding of holes, cuts and model tree relations Creation shafts, rounds, chamfers and slots Sketch Tools & Datum planes Creation of objects by revolved features, patterns and copies, sweeps and blends Creation of engineering drawing details such as dimensioning, sectional views, adding esthetics Assembling of part models using constraints Assembly operations - part modifications, adding another assembly features – display. 3D Modeling Surfacing of parts	

Basic Text & Reference Books:-

- Computer Graphics, Donald Hearn and .M. Pauline Baker, Prentice Hall ,Inc., 1992
- CAD/CAM - Theory and Practice, Ibrahim Zeid, McGraw Hill, International Edition, 1998.
- CAD/CAM – Computer Aided Design and Manufacturing, Mikell P Groover and Emory W Zimmers Jr., Prentice Hall International
- Mastering CAD/CAM, Ibrahim Zeid, Tata McGraw-Hill Edition, New Delhi
- CAD/CAM, PN Rao, Prentice-Hall India