

Basic Computer Aided Drafting and Glass Blowing Practice

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Course Code: CADG01

Objectives :

- ❖ *This course is designed to introduce students to the fundamental of Engineering drawing and Auto CAD for the design of different products*
- ❖ *To provide knowledge of co-ordinate systems and various commands used for designing in Auto CAD and to trained to draw 2D and 3D drawing.*
- ❖ *To provide knowledge of making Dropper and ampoules in glass blowing.*
- ❖ *To making of test tubes and various joints fusing techniques in glass blowing.*

1. Computer Aided Drafting

- Unit I : Co-ordinate systems: Different co-ordinate systems – absolute-relative and polar systems used in Auto CAD
- Unit II : Drawing commands and dimensioning systems: Different commands used for drawing and designing, editing and the dimensioning systems required by CAD.
- Unit III : 2 Dimensional drawing: Designing different 2 dimensional drawing and dimensions
- Unit IV : 3 Dimensional drawing: Designing different 3 Dimensional drawing

2. Glass Blowing

- Unit 1 : Dropper: Glass tube rotated with the flame into to make dropper (used for lab take laboratory solutions)
- Unit II : Ampoules: Glass tube with flame and making ampoules (used for vaccum or sample storage)
- Unit III : TEST TUBES: Glass tube make into drawing as a test tube (used for taking samples)
- Unit 1V : Plain joints: joints one more glass tubes

Outcome:

- ❖ Able to learned about the fundamental of Engineering drawing and Auto CAD, Auto CAD commands, 2D and 3D drawings
- ❖ Knowledge of various design techniques.
- ❖ Understanding basic glass blowing techniques for making Dropper, test tubes, ampoules and joints in glasses
- ❖ Application in designing new objects in research and techniques in glass blowing.

Reference Books:

1. Arshad, N. Siddique: Engineering drawing with Auto CAD (PHI learning Pvt. Ltd, New Delhi, 2011)
2. K. C. John : Engineering Graphics (PHI learning Pvt. Ltd, New Delhi, 2010)
3. Dr. R. Kesavan: Engineering graphics (Sams Publishers, Chennai, 2011)
4. Mikell P. Groover : CAD/CAM (Prentice-Hall of India, 1999)
5. Dr. V. Vijayan: Engineering Graphics (Maruthi Publishers, 2016)
6. James E. Shelby: introduction to glass Science and Technology (The Royal Society of Chemistry, 1997)
7. Robert H. Doremus: Glass Science (John Wiley & Sons, Second edition, 1994)
8. I. A. Bulavin : Heating process in glass and silicate Technology, Mir publishers , Moscow,1986)