

Established by Govt. of U.P. under 21 of U.P.C. Act, 1974 and U.P. Act 22 of 1977

BCE-101- Engineering Graphics and Design

LTPC
1001

All phases of manufacturing or construction require the conversion of new ideas and design concepts into the basic line language of graphics. Therefore, there are many areas (civil, mechanical, electrical, architectural and industrial) in which the skills of the CAD technicians play major roles in the design and development of new products or construction. Students prepare for actual work situations through practical training in a new state-of-the-art computer designed CAD laboratory using engineering software. This course is designed to address:

- to prepare you to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- to prepare you to communicate effectively
- to prepare you to use the techniques, skills, and modern engineering tools necessary for engineering practice

MODULE-I

Traditional Engineering Graphics: Principles of Engineering Graphics; Orthographic Projection; Descriptive Geometry; Drawing Principles; Isometric Projection; Surface Development; Perspective; Reading a Drawing; Sectional Views; Dimensioning & Tolerances; True Length, Angle; intersection, Shortest Distance.

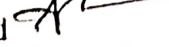
Computer Graphics: Engineering Graphics Software; -Spatial Transformations; Orthographic Projections; Model Viewing; Co-ordinate Systems; Multi-view Projection; Exploded Assembly; Model Viewing; Animation; Spatial Manipulation; Surface Modelling; Solid Modelling; Introduction to Building Information Modelling (BIM)


Text Books:

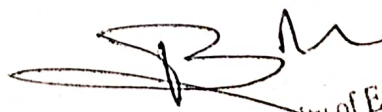
1. Bhatt N.D., Panchal V.M. & Ingle P.R., (2014), *Engineering Drawing*, Charotar Publishing House
2. Shah, M.B. & Rana B.C. (2008), *Engineering Drawing and Computer Graphics*, Pearson Education
3. "A Primer on Computer Aided Engineering Drawing"-2006, Published by VTU, Belgaum.

Reference Books:

1. Agrawal B. & Agrawal C. M. (2012), *Engineering Graphics*, TMH Publication
2. Narayana, K.L. & P Kanniah (2008), *Text book on Engineering Drawing*, Scitech Publishers
3. (Corresponding set of) *CAD Software Theory and User Manuals*
4. S. Trymbaka Murthy, "Computer Aided Engineering Drawing" -I.K. International Publishing House Pvt. Ltd., New Delhi, 3rd revised edition-2006.
5. K.R. Gopalakrishna, "Engineering Graphics", 32nd edition, 2005 - Subash Publishers Bangalore.

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