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| INSTITUTE | FACULTY OF TECHNOLOGY |
| PROGRAM | BACHELOR OF TECHNOLOGY (CIVIL ENGINEERING) |
| SEMESTER | 3 |
| COURSE TITLE | COMPUTER APPLICATIONS IN CIVIL ENGINEERING-I |
| COURSE CODE | 01CI1305 |
| COURSE CREDITS | 1 |

Objective:

- 1 To study different Software commands.
- 2 To understand the AutoCAD Software and its application in Planning for buildings.
- 3 To study different Software commands
- 4 To apply the learning into the different projects by following building bye-laws and national building code for buildings

Course Outcomes: After completion of this course, student will be able to:

- 1 Demonstrate the use of various tools for drafting purpose.
- 2 Draw the Building Shapes and units using various commands.
- 3 Examine the role of different parameters used in Software and its benefits
- 4 Prepare working drawings, foundation plans and other executable drawings with proper details for residential buildings, commercial and institutional buildings

Pre-requisite of course: TO GET FAMILIAR WITH APPLICATION OF BUILDING PLANNING DRAWINGS IN SOFTWARE

Teaching and Examination Scheme

| Theory Hours | Tutorial Hours | Practical Hours | ESE | IA | CSE | Viva | Term Work |
|------------------------|-----------------------|------------------------|------------|-----------|------------|-------------|----------------------|
| 0 | 0 | 2 | 0 | 0 | 0 | 25 | 25 |
| Contents : Unit | Topics | | | | | | Contact Hours |
| Total Hours | | | | | | | |

Suggested List of Experiments:

| Contents : Unit | Topics | Contact Hours |
|------------------------|---|----------------------|
| 1 | Introduction to Engineering Drawings and AutoCAD Introduction to Engineering Drawings, AutoCAD, Different Versions of AutoCAD Workspace, Coordinate System, File management | 2 |

Suggested List of Experiments:

| Contents : Unit | Topics | Contact Hours |
|--------------------|---|---------------|
| 2 | Basic Drafting Command Basic Geometry Shapes, Standards, Units, Limits, Snap, Drafting Setting | 4 |
| 3 | Modified Command Move, Rotate, Scale, Copy, Mirror, Erase, Trim, Extend, Undo, Explode, Break, Stretch, Join, Fillet, Chamfer, and Object Properties | 4 |
| 4 | Advanced Drafting Commands Array, Single line and multi-line text, Special Lines, Projection and Views, Hatching, Annotation, Dimension Style manager | 6 |
| 5 | Layer Management Layer, Layer Tools, Layer State Manager, Export-Import Layer, Hatch Pattern, Blocks, External References, Layout, Plot and Publish | 4 |
| 6 | Civil Engineering Building planning and drawing Introduction to Building drawings, principles of planning, Plan, Elevation, Door and Windows, Partitions, Foundation, Title Block, Dimensions | 8 |
| Total Hours | | 28 |

Textbook :

- 1 AutoCAD 2011 for Engineers and Design, Sham Tickoo, Dream Tech Press, 1999

References:

- 1 Engineering Drawing and Graphics AutoCAD, Engineering Drawing and Graphics AutoCAD, T. Jayapoovan, Vikas Publication, 2001

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

| Distribution of Theory for course delivery | | | | | |
|--|------------|-------|---------|----------|----------------------------------|
| Remember / Knowledge | Understand | Apply | Analyze | Evaluate | Higher order Thinking / Creative |
| 15.00 | 20.00 | 50.00 | 15.00 | 0.00 | 0.00 |

Instructional Method:

- 1 At the start of course, the course delivery pattern, prerequisite of the subject will be discussed.
- 2 Sessions will be taken in Computer Laboratory with the use of individual computer per student.

Instructional Method:

- 3 Attendance is compulsory in the laboratory which carries a 5% component of the overall evaluation.
- 4 Final practical exam will be conducted which contains 50% overall evaluation
- 5 Assignments based on course content will be given to the students at the end of each unit/topic and will be evaluated at regular intervals. It carries a weightage of 25%.

Supplementary Resources:

- 1 <https://www.gao.gov/products/113741>
- 2 <https://help.autodesk.com/view/ACD/2023/ENU/?guid=GUID-39B76D69-225D-45EE-A9AC-59CCBF48AF64>
- 3 <https://www.youtube.com/watch?v=cmR9cfWJRUU>