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**1.AUTOCAD AND ITS COMMAND**

What is AutoCAD

* **AutoCAD** is a [commercial](https://en.wikipedia.org/wiki/Commercial_software) [computer-aided design](https://en.wikipedia.org/wiki/Computer-aided_design) (CAD) and [drafting](https://en.wikipedia.org/wiki/Technical_drawing) software application. Developed and marketed by [Autodesk](https://en.wikipedia.org/wiki/Autodesk). AutoCAD is used in the industry, by architects, project managers, engineers, graphic designers, city planners and other professionals.  It is used for a number of applications like creating blueprints for buildings, bridges, structural and mechanical components to name a few represented in both 2D and 3D designs depending on level of expertise.

COMMANDS:

## ****TR (TRIM)****

This command is used for trimming a geometry

1. **L (LINE)**

It can be used for making simple lines in the drawing.

## ****EX (EXTEND)****

This command is used for extending lines in a geometry.

## ****DI (DISTANCE)****

It can be used to find the distance between two points in the drawing.

2.Types of Staircase

1. **Straight Stairs:** Straight stairs are stairs without any changes in direction and is the most common and affordable life style. The straight line design means that the staircase doesn’t need any special support.
2. **Circular staircase:** it is sometimes called helixed staircase, their curve is more graceful less compact, which help create an architectural focal point.
3. **L Shaped Stairs:**

The L shaped stair is a variation of the straight stair with a bend in some portion of the stair. This bend is usually achieved by adding a landing at the transition point. It requires support from landing and the turn.

1. **Split staircase:** It is typically used in the entryway of a very grand and spacious home,the staircase starts with a wider flight at the bottom. Part of the way up, there is a generous landing with two narrower flight on either side of the bottom section.

3.Types of Paper Size;

Most printer users are probably already aware of ‘A size’ paper. These are the most widely used, and easily distinguishable paper sizes. These paper sizes are simple to understand, as they increase and decrease in successive order, with A1 being the biggest paper size and A10 the smallest.

|  |  |  |
| --- | --- | --- |
| **Paper Size** | **Width x Height (mm)** | **Width x height (inches)** |
| **A1** | 594 x 841 mm | 23.4 x 33.1 in |
| **A2** | 420 x 594 mm | 16.5 x 23.4 in |
| **A3** | 297 x 420 mm | 11.7 x 16.5 in |
| **A4** | 210 x 297 mm | 8.3 x 11.7 in |
| **A5** | 148 x 210 mm | 5.8 x 8.3 in |

NOTE: A4 paper is the most commonly-used for printing and measures

PRATICAL B



**PROCEDURE:**

1. **First of all, the plot of land is searched for and acquired in a location that is best suited for building construction processes, noting that it has all desirable facilities nearby after some appropriate site planning considering all factors affecting it.** It is the most important step in building construction.
2. After selecting proper land for building, personally create building designs or get help and advice from an architect, prepare the floor plans and building requirements, number of flats, rooms, based on the owner’s requirements and budget. Then after, determine the structural details of the reinforcements to be used.
3. After, planning and structural detailing completed these details are transferred to the building estimator. The building estimator will estimate the material quantity, quantity of different items of work, and prepare an abstract sheet that shows the cost of building construction. Of course, after getting appropriate permissions from building and construction authorities.
4. Builders or contractors for construction must be chosen carefully as it is a major factor for securing building construction quality and timely construction of work. In the contract document, all the work-related details must be clearly stated. The contract document should cover layout and work details along with the payment methods, time scales and costs.
5. The construction site must is cleaned before the work is executed. This work involves the removal of roots of trees, debris and leveling ground area. Then the foundation of building ground is excavated with the help of excavating machines as per the building dimension specified in drawings.
6. After the foundation work is done ground beam formwork preparation is started and poured with concrete. Over the plinth beam, masonry work is started and space between foundation and plinth beam filled with soil. The columns are built up to slab level and the frame for further construction is prepared.
7. As column and beam framework is completed, masonry work is started with different materials such as bricks, concrete blocks, fly ash bricks, etc. according to building drawing. The lintel is constructed on the door and window to support the masonry work over it.
8. Then the formwork is started to construct slab resting on the column and beam. Over slab formwork, slab reinforcement is placed as per slab detailed drawing, after that door window frames are fixed at their specified position given in drawing.
9. Supervise the laying of the material in the building. To ensure it is being fixed properly
10. Recheck all work done.

**DIFFERENCE BETWEEN**

 **1. An Architectural drawing** is a [technical drawing](https://en.wikipedia.org/wiki/Technical_drawing) of a building or building project. Architectural drawings are used by [architects](https://en.wikipedia.org/wiki/Architect) and others for a number of purposes, to develop a design idea into a proposal, to communicate ideas and concepts, to convince clients of the merits of a design, to assist a [building contractor](https://en.wikipedia.org/wiki/Building_contractor) to construct it based on design intent, as a record of the design and planned development, or to make a record of a building that already exists. WHILE

**A civil engineering drawing** is a technical drawing that shows information about grading, landscaping, or other site details. It intend to give a clear picture of all things in a construction site.

 **2. A Working drawing** is a drawing or blueprint based on explanations. It is completed with a thorough plan and views (details, notes, and dimensions) to ensure the [product](https://knowtechie.com/tag/gadgets) construction or replication without additional information. it is a scale drawing of an object to be made or structure to be built intended for direct use by the workman,WHILE  **A Presentation drawing** is any of a set of design drawings made to articulate and communicate a design concept or proposal such as for an exhibition, review, or publication intended to explain a scheme and to promote its merits.

**3. A Bill of Engineering Measurements and Evaluation (BEME).** A **BEME** review is a description and evaluation of evidence pertinent to a clearly formulated concept that uses explicit scientific methodologies and methods to systematically identify, assemble, critically analyse and synthesise information relevant to the review topic, WHILE

 The **Bill of Quantities** (sometimes referred to as **'BOQ'** or **'BQ'**) is a document prepared by the cost consultant that provides project specific measured quantities of the items of work identified by the drawings and specifications in the tender documentation.

4. A **Section** of an element or a structure is cut through that shows the interior details of how an element/structure/material is made in the inside which reveals more details whereas the elevation is the exterior appearance of the same, WHILE

**Elevation'** refers to an orthographic projection of the exterior (or sometimes the interior) faces of a building, that is a two-dimensional drawing of the building's façades.