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Section : B

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Subject : Engineering
Drawing and
Graphic

Q1:- What is the importance of various types of drawing in building construction?

Types of construction

Drawing:-

There are different types of drawing used for the construction process.

Depending upon the purpose they serve, construction drawing are divided into five types,

① Architectural Drawing:-

Architectural drawing can be termed as the mother drawing for all the other drawing used for construction.

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It contains all the details of the Project such as location site plan, setting out plan, elevations, sections and other details.

① Site Plan :- This is primary drawing used for marking out the plan on the ground. It represents the location, orientation, and information about the sites topography, landscaping utilities and site work.

② Working Plan :-

This drawing gives the information of horizontal dimensions of the building.

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thickness of walls, clear spaces inside the building and column locations. It also shows the openings required in the building such as doors, windows and ventilators.

③ Section drawings:-

Section drawings represent the material of construction to be used, heights, and measurement of the different components of buildings, types of structural components such as slab, etc.

It represents the drawing when the building is cut through a vertical plane.

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④ Elevation Drawing:-

Elevation drawing represent the information of openings, size and shape of external surface, height of building and finish of the building after completion. These drawing are made by having a aesthetic view of the building.

② Structural Drawing:-

Structural drawing can be termed as the backbone drawing of the building. It consists all the information about the structural intervention that are coming on the building.

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it contains many type of drawing with very minute details and description.

(3) Electrical drawings:-

Electrical drawing represent the detail of electrical fixture, location of switches, fan, light and others. It also represents the load calculation, tapping for electricity wiring path and other intervention such as AC and UPS and its components.

(4) Plumbing Drawing :-

Plumbing drawing give the location of sanitary, piping

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for water supply system, fixture, and the process to connect every minutes.

⑤ Finishing Drawing:-

Finishing drawing represents the finish type every component of the building such as flooring pattern, painting color, false ceiling shape, plastering texture and elevation design. These details are sometimes given in elevation drawing.

There is no standard rule of drawings required for a project. Depending upon the type of building and requirement, types of drawing are made and issued.

Q3:- What are the various components of Plumbing drawing? Briefly describe each component?

Plumbing Drawing:

These drawing show water supply and sewage systems of any building, indicating the placement of pipe line, e.g (G.I, UPVC & PVC etc).

These are three principal parts of Plumbing system.

- ① water supply system
- ② wastewater and waste removal system.
- ③ Plumbing Fixture.

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Wastewater and waste removal:-

- Wastewater and other wastes are carried to the sanitary sewer or septic tank through the waste removal system.
- These pipes are isolated from the water supply system and must be sized for sufficient capacity, have the proper slope and venting, and have provisions for cleanouts.
- Typically it is practical to drain as many of the fixtures as possible into a single main drain.
- The drainage system is not under pressure and depends on gravity to carry the waste into the sewer.

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a vertical drain pipe that collect waste from one or more fixture is called a soil stack.

soil stack that drain water closets are called main stacks.

Every ~~main~~ house must have at least one main stack, which is generally 3" in diameter.

Each bathroom must have a main stack.

Stack that do not drain water closets are called secondary stacks.

Secondary stacks are 1-1/2" diameters.

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Fixture are connected to
be stack using a branch
main.

All stacks are extend and
being emptied into a
house drain.

All fixture must have
at least one house drain,
but may have several.

The house drain become the
house sewer once it is
outside the house. The
house sewer empties into
the city sanitary sewer
or private septic system.

TRAPS

The trap most commonly
used with plumbing fixture

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is the P-trap.

House trap

Building (house) traps are provided in the main building sewer.

Soil stacks and waste stacks.

A Soil Stack is a vertical drain pipe that carries soil waste from sanitary units.

A waste stack is any other vertical drain pipe that does not carry soil from a sanitary fixture.

Plumbing Cleanouts-

A Plumbing Cleanout is a cleanout fitting with a removable Plug used in wastewater system. It is designed to help keep remove any type of debris that could cause any type of stoppage in the sewerage lines.

Plumbing Air vents:-

Drain pipes remove water and waste from a building the plumbing vent pipe - also known as a plumbing air vent removes gas and odors. It also allow fresh air a plumbing system.

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Plumbing Plan

The Plumbing Plan is a plan view that shows complete plumbing system. The Plumbing Plan shows the location, sizes and type of all fixtures, pipes etc.

Q2:-

Structural drawings and construction of multi storey building.

Structural drawings:-

Those technique drawings which mainly show the internal details of a structure or building.

These internal details maybe about reinforcement detail for R.C.C structure, floor internal detail, roof internal detail, stairs detail internal etc.

→ These drawing are developed by civil/structure engineer.

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For example :-

In case of reinforcement detail the drawing may include the following.

- Bar numbers and types
- Bend shape.
- center to center spacing between bars.
- Lap length.
- joint detail
- minimum clear cover and grade of reinforcement.

The ~~the~~ structure drawing set has different subpels.

- General notes
- location plan

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- Site detailed Plan
- Floor Plan
- Elevation Plan Section.

General Notes.

General notes are parts of structural drawing and they cover the code used in design and by-laws of building - typically no detail on these drawings.

Location Plan :-

A location Plan provides location details of the proposed development in its surrounding context. This enables the planning authority to properly facility will be constructed.

Site Plan :-

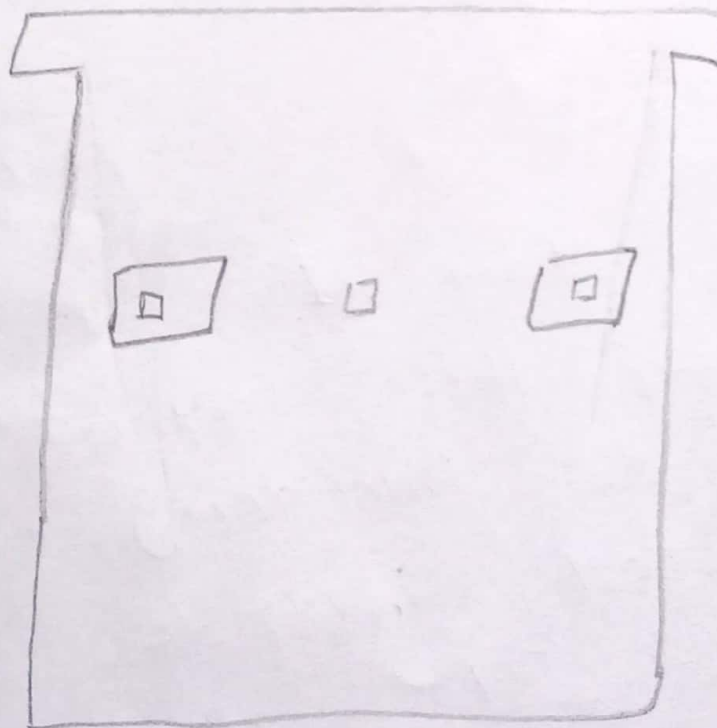
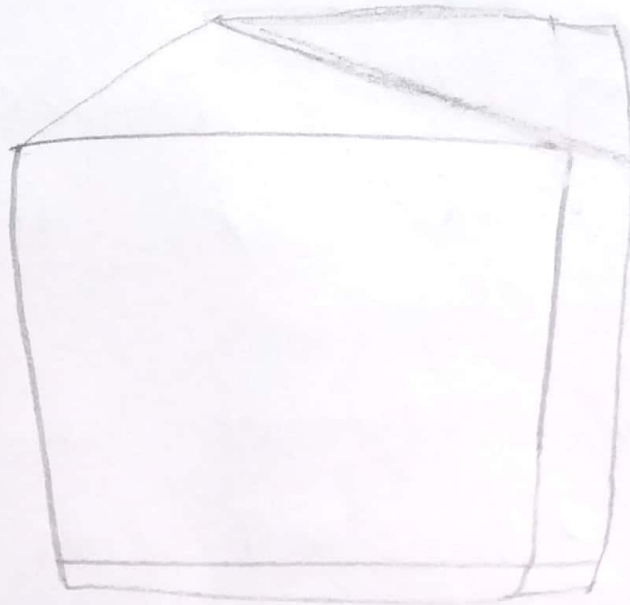
A site plan is a diagram that shows the layout of a proposed building. A site plan may include the location and details of different components of a building and structure.

For example :-

Rooms, kitchen
TV lounge etc.

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Elevation views:-



(19) Elevation :-

Elevation show the exterior walls of a building or structure in elevation drawing. You can find the height

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of building and structure
properties of element present
in the walls.

Section:

Section Plan show are
referenced in the Plan view
drawing and provide information
about elements that cannot
be see in Plan drawing.