

Name: Muhammad Sulaiman

ID# : 7925

Sect : A

Dep : BE Civil Engineering

Instrut: Engr SIR Nadeem ULLAH

Subj : Engineering Drawing & Graphics Theory

Date : 26 September 2020

Q#1

Ans:

Plumbing: The word plumbing comes from the Latin word plumbum for lead, as pipes were ~~for~~ once made from lead.

→ plumbing is a system of P, P, drain, fittings, valves, valve assemblies and devices installed in building for the distribution of water for drinking, heating and washing, and the removal of water borne wastes.

and the skilled trade of working with pipes, tubing and plumbing fixtures in

Such system.

→ plumbing is often denotes the supply and waste system of an individual ~~distru~~ distinguishing it from water supply and sewerage system that serves a group of building.

→ A basic plumbing system consists of three parts, and fitting fixtures, and drainage, Together they combine to create a functional plumbing system that serves that a a

variety of uses in the home

Bathrooms, Kitchen and even garage are all common places where you can find complete plumbing system.

Pipes and fitting are the backbone on which all plumbing system are built. This component of the plumbing system

consist of all the pipes that connect the home to the main water supply lines. It also include any fitting required to connect the various plumbing pipe at various intersections and the creat varying angle for the pipes. when needed.

Most plumbing systems will have a combination of both hot water and cold water pipes.

each designed to withstand either high or low temperatures with ease.

Pipes can also be made from a variety of material including copper, brass, lead, PVC or CPVC.

→ The pipes in a basic plumbing system will connect to a variety of plumbing fixtures. Plumbing fixtures

can include sinks, bathtub, hot water heaters, toilets, washing machine and dish washers.

Each fixture serves a specific

need in the house and ~~is~~ is typically designed for inclusion in specific rooms. A bathroom sink, for example would not be suited for installation in a kitchen.

Each fixture will also have a specific set of ~~main~~ maintenance needs that should be carried out on a regular basis to keep the fixture in the working order.

→ Just a pipes connect the fixtures to the main water supplies, drainage system are the components of basic plumbing system that connect the various fixtures to the

waste removal lines and eventually,
the sewerage system, The drainage
is also the component of a
basic plumbing system that often
requires the most attention as clogged
drains are common household
occurrences.

Because of this special care
should always be taken to
ensure no material are being
allowed to enter into the
drainage system are that are too
large or bulky for the particular
drain to handle and pass
freely. If a blockage does

plungers, augers, and various household chemical drain cleaners can be used to help break up the clog and restore proper drainage to the individual fixture.

plumbing system of a multi story building:

Design plumbing system for multiple dwelling and multi-story housing units requires careful attention to factors that are substantially more complicated than those for single story dwelling. The following overview

of some of these important factors

can help you understand the
what needs to be considered
when designing a plumbing system
for multi-story dwellings

→ Increased water pressure for
multi-story buildings:

In a multi-story building, water
pressure will often need to be
increased to ensure that water is
reaching the upper levels of
the structure. This can be
accomplished in
several different ways.

- Installation of booster pump

- Using a gravity-based roof tank.

→ Water is pumped from a ground level or basement-level storage tank into a roof tank that attains adequate water pressures through gravity.

Use of hydro-pneumatic storage

tank... water is pumped from municipal supply lines or gravity storage tanks into hydro-pneumatic storage tanks that use internal air pressure to increase the water supply line pressure.

→ Avoidance of cross-contamination.

Multi-story building must have plumbing system design that prevent the possibility of cross-contamination of ~~drinking~~ drinking water from one dwelling to another

Carelessness or unsanitary behavior from one resident or tenant should not effect the water quality of any other tenant.

This also true if the building uses commercial facilities as well as residential units

=> Installation of control valves:

Multi-dwelling units should have control valves installed to control water supplies to each individual units.

Control valves also give building managers and owners the option to stop water flow to unoccupied units.

In cold ~~weather~~ weather, for example this could reduce the chance of pipes freezing in vacant units.

- All drains should be adequately ventilated
- Deleterious substance should be excluded from sewers.
- Back flow of sewerage should be prevented
- plumbing material and workmanship should conform to all codes
- plumbing installation should be tested
- plumbing system should be properly maintained
- water supply for human consumption should be safe at all times

Q#2

importance of using symbols in

Ans

Drawing :- ?

Just as in chemistry we use symbols to represent element, in architectural floor plans, we use symbols to represent electrical plumbing sanitary, gas, HVAC etc equipment, fixtures

→ These are symbols only and they not represent the shape size, color, texture of the actual item.

→ The description of specific items is covered in the specification document which forms an integral part of the working drawings.

→ Standard abbreviations and nomenclature are considered part of symbols

→ A floor plans therefore usually contains a list of symbols/legends being used on that particular floor plan.

→ A symbol is something that represent somethings else by association, resemblance, or convention. It does not have image

For example, A rose can be said to be symbols of love,

A cup can be used as an object of reference symbol of break time.

A and a cross a symbol of Hope

a Two Dimensional design, drawing, picture or sketch

that is used to represent another things. Symbols all arround us and we see them every day. Some are so common place that we take them for granted.

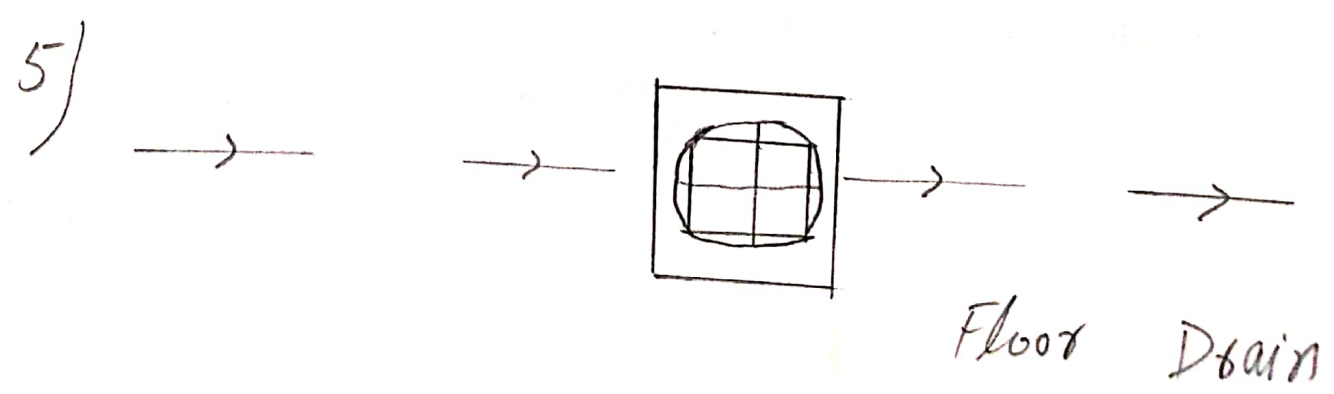
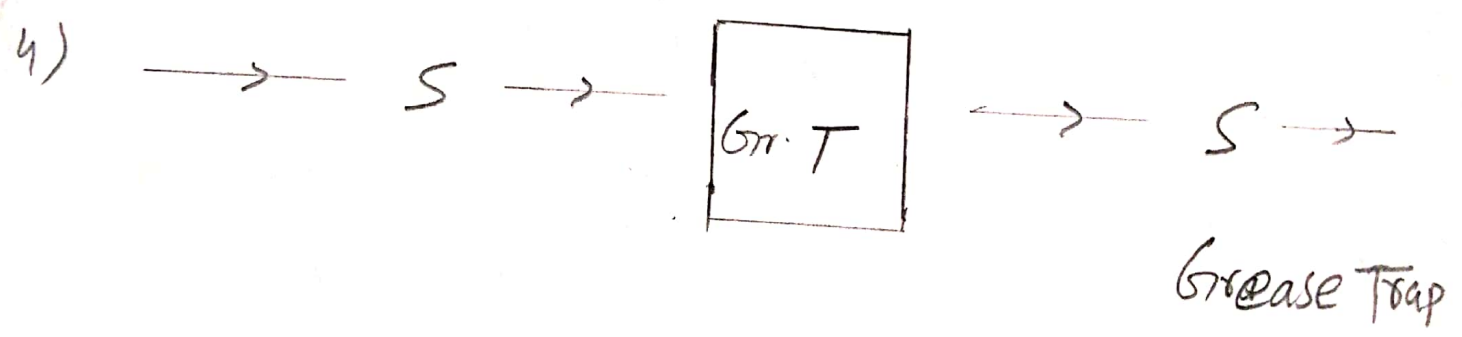
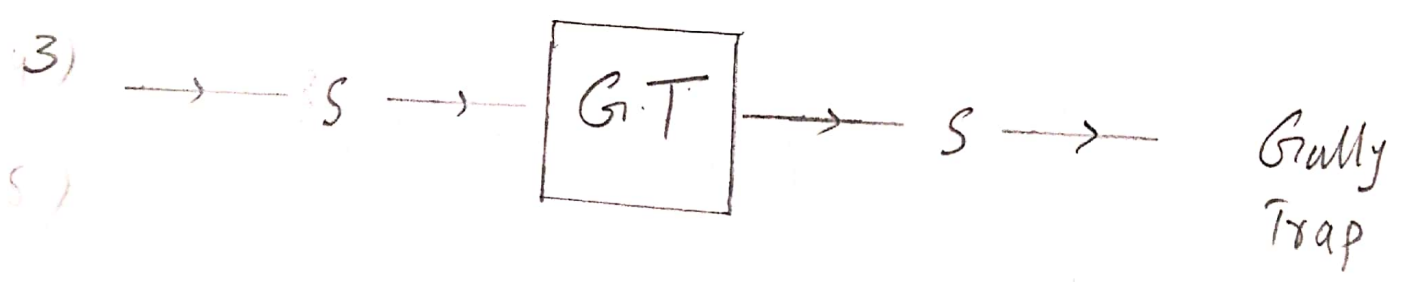
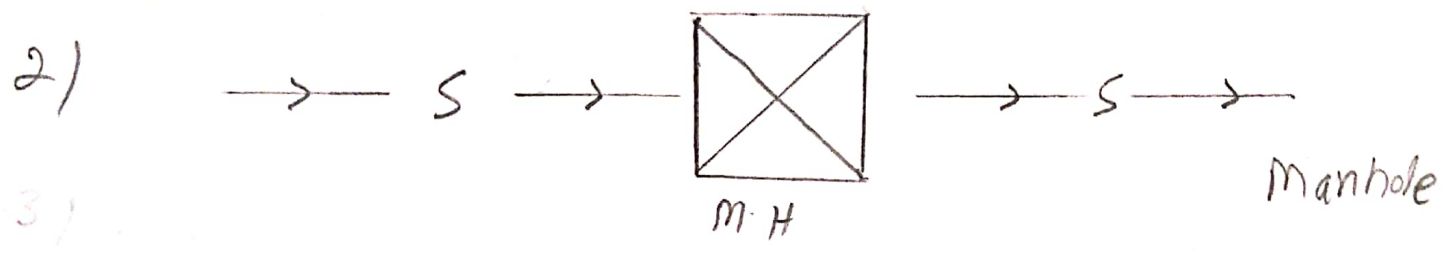
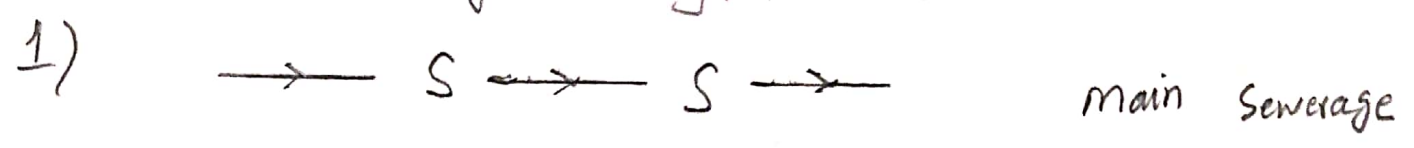
→ Symbols can help to

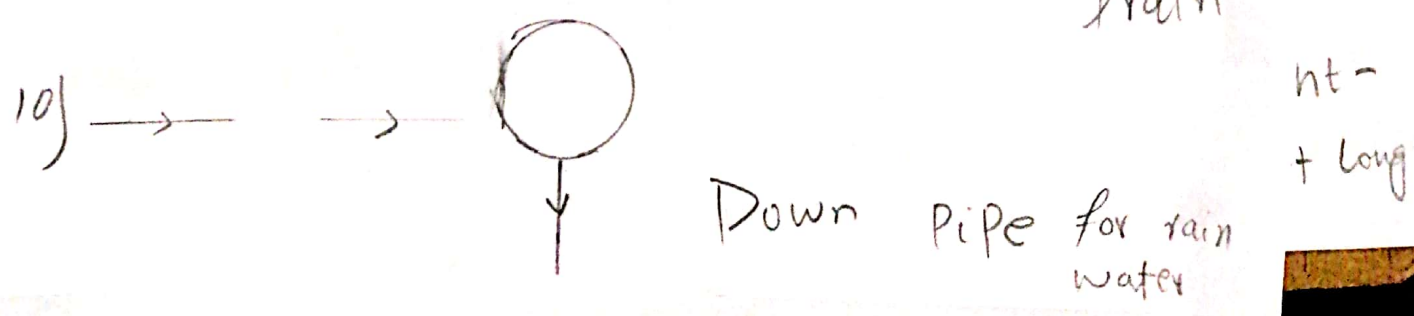
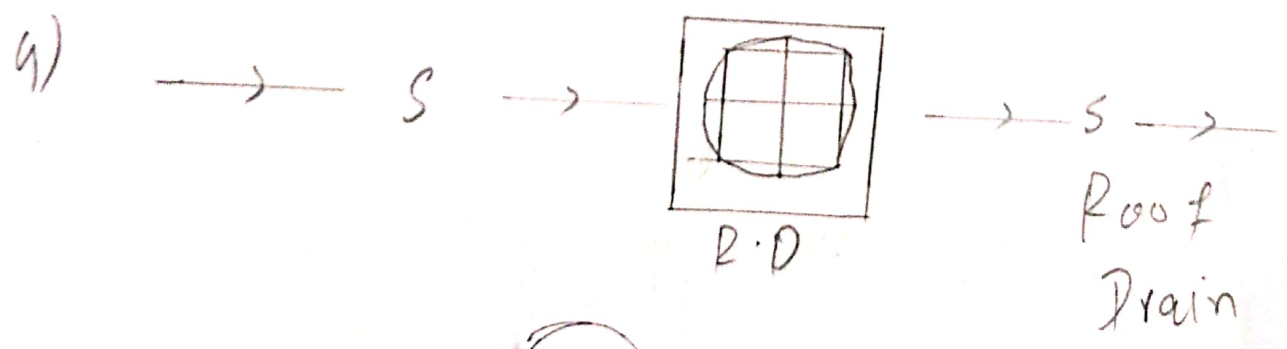
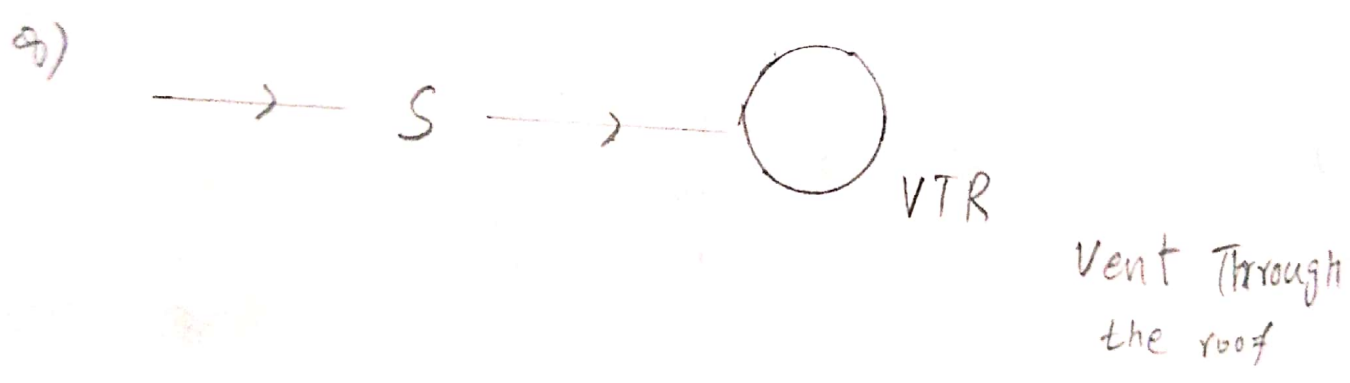
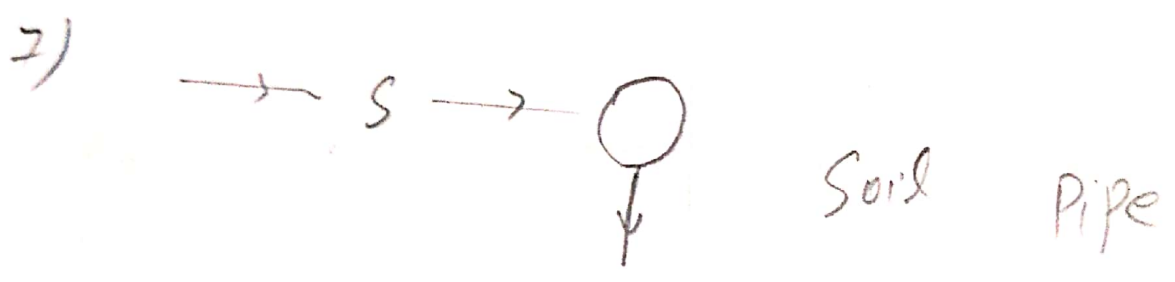
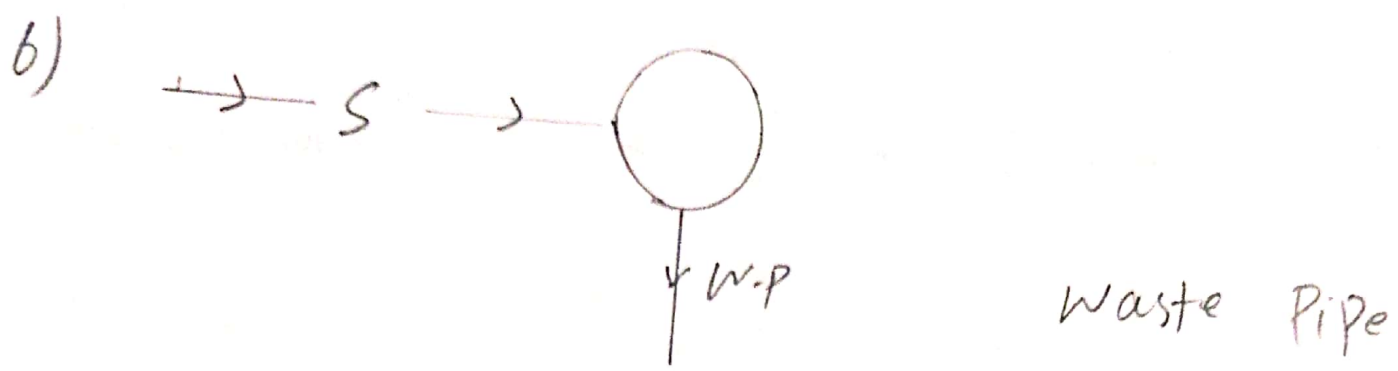
- Assist Assist inclusion
- Provide a mean of communication
- help with conceptual understanding.
- Promote greater independence

→ Symbol in an alien territory for example


- help to provide structure and routine
- ~~install~~ instill confidence.
- help individuals cope with change.

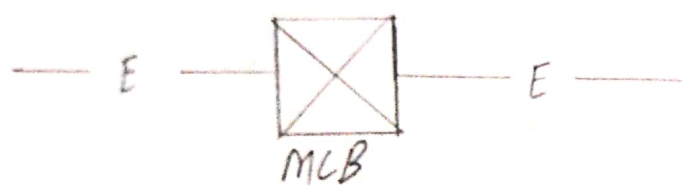
Q#2) Sewerage Symbols

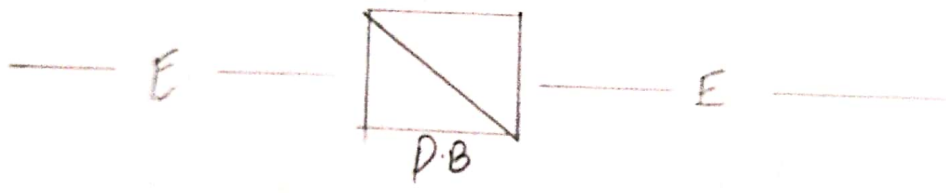





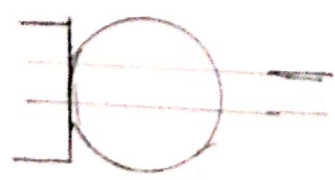
Electrical Symbols

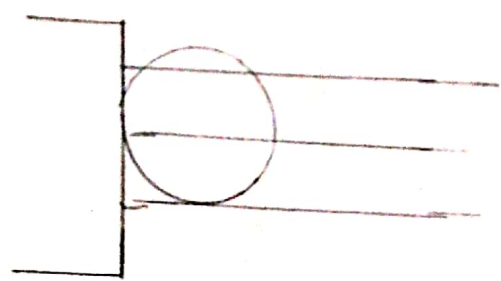
- 1)  Main supply line

- 2)  Main Control Board.

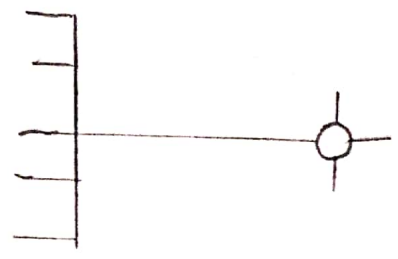
- 3)  Distribution board

- 4)  Switch Board.

- 5)  Electrical outlet
- 5 Amps

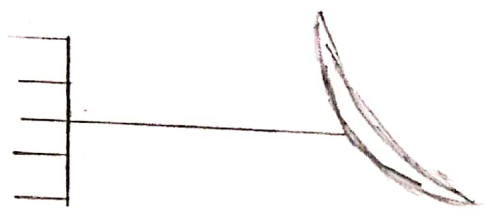
- 6)  Electrical outlet
- 15 Amps.

7)



Gate Light

8)



Security Light

9)



Telephone Socket

10)



Bell Push

11)



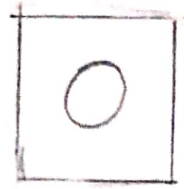
Cell Bell

12)



Mirror Light

13)



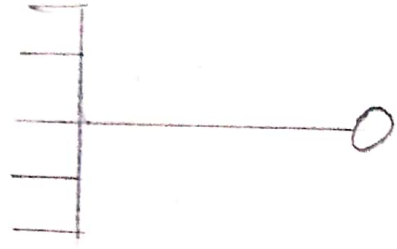
Ceiling mounted / Porch light

14)



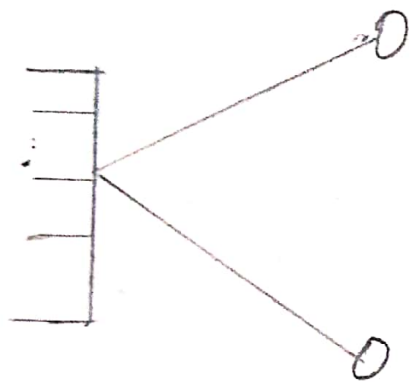
Ceiling mounted / Globe light

15
15



Wall mounted / Globe light

16)



Wall mounted / fancy light

17)



switch (single pole)

18

18)



Switch (Double pole)

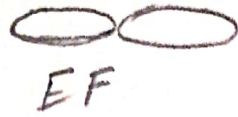
19)



TL

Tube light -
4 ft long

20)



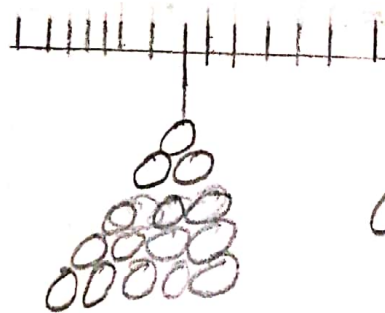
Exhaust Fan

21)



ceiling Fan (48"-50" Dia)

22)



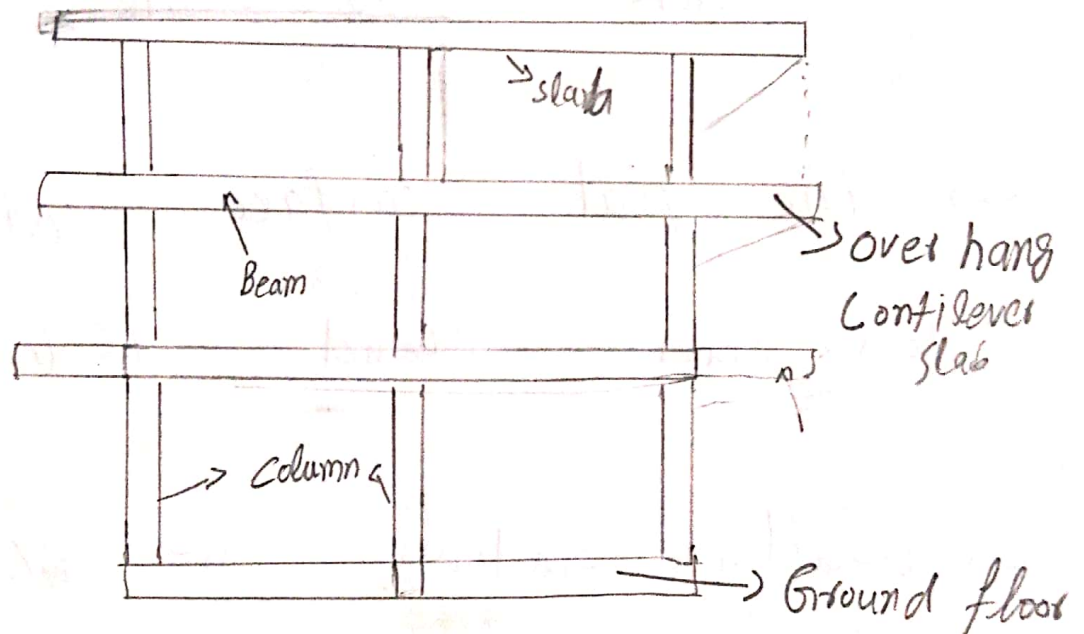
Chandeliers.

The End of This
Ques # 2

Q#3

What Briefly is the importance component of frame structure along with Diagram?

Answer:



This is a completed building as a framed building

Component of framed building structure.

This building has ground floor, First floor, Second floor, ~~third floor~~ and terrace floor.

→ The vertical elements are the columns.

→ The horizontal bands are the beams.

→ The flat surface on which you can stand is the slab.

→ Walls, windows are added later to give protection to inhabitants.

→ The loads such as human beings, furnitures, etc is carried by this frame.

→ The wall have no role except protecting the inhabitant from weather

Basically building structures there are two types of structure

1) = framed structure

2) load bearing structure.

→ Doors And window

• A Door provides a connecting

link between rooms.

allowing easy free movement

in the building.

→ windows are opening provided in wall. Doors and windows provided lighting and ventilation. They provided resistance to weather, sound and heat. They provided security and privacy.

→ step and stairs:

Steps and stairs are meant to provided access b/w different levels stairs should be properly located to provide easy access and fast services to the buildings.

→ In one flight maximum 8 steps should be provided for more than 8 steps it is recommended to provide them with landing

• Generally for residential building width of stair

1.0 m and 1.2 m

$$\text{No of riser} = \frac{\text{total height of floor}}{\text{Height of riser}}$$

$$\text{No of treads} = \text{No of riser} - 1$$

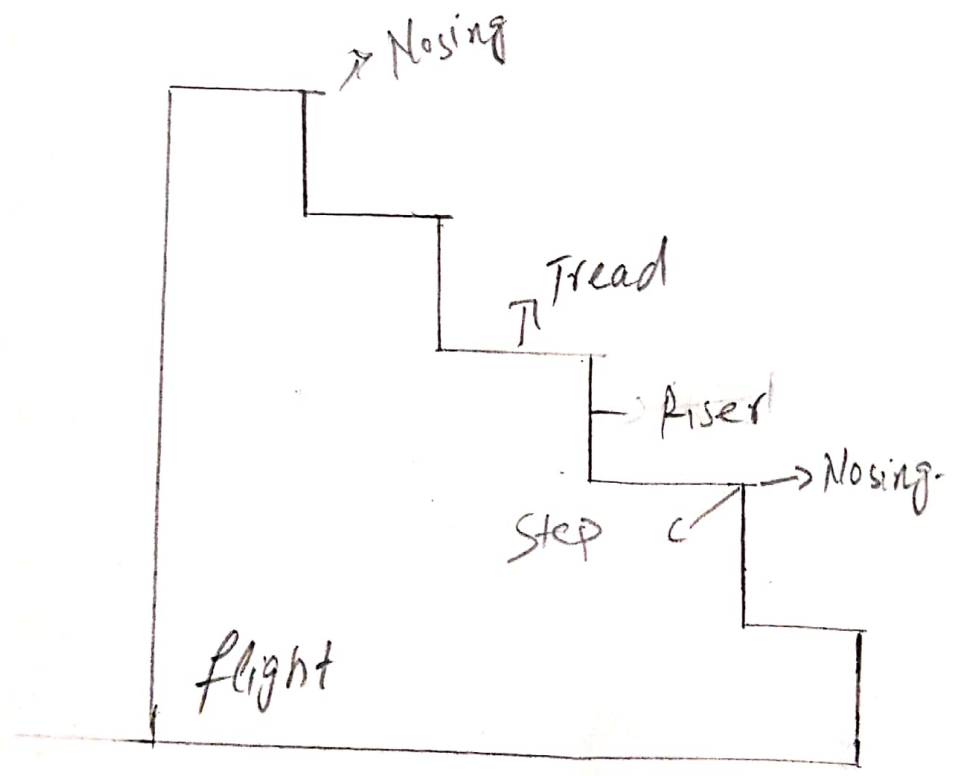
Slab: A slab is structural elements made of concrete, that is used to create flat horizontal surfaces such as a floor, roof decks and ceilings. A slab is generally several inches thick and supported by beam, column or the ground.

Concrete slabs can be pre-fabricated off-site and lowered in to place or may be poured in-situ using formwork.

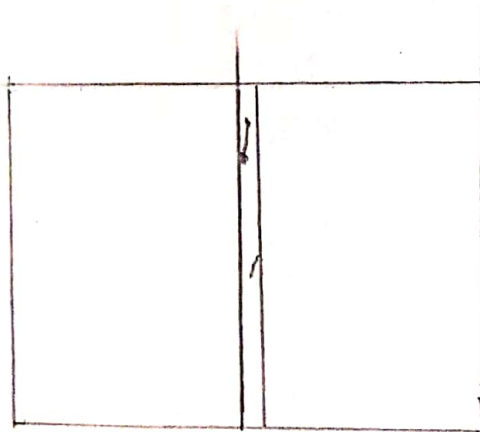
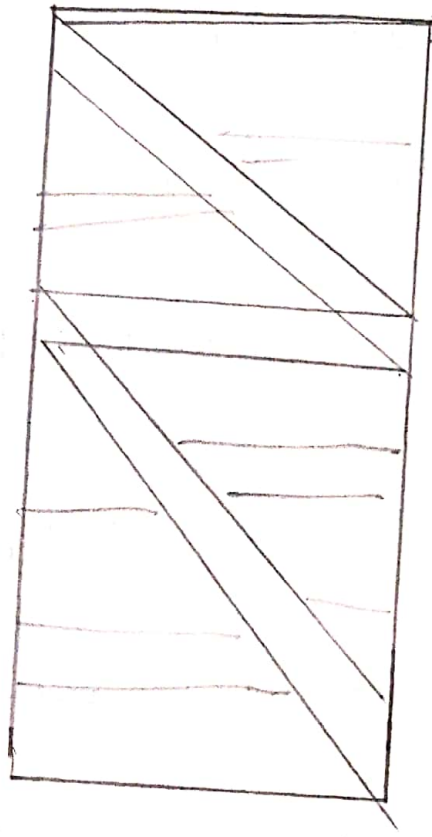
if reinforcement is required slabs can be pre-stressed or the concrete can be provided

over rebar positioned within the form work

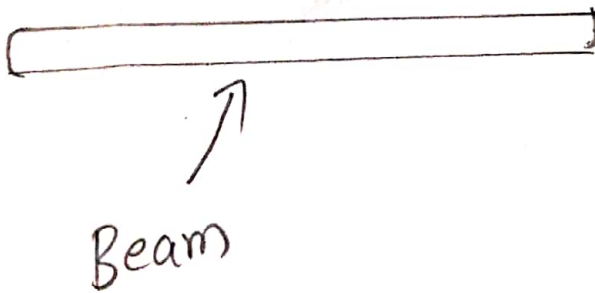
Stair →



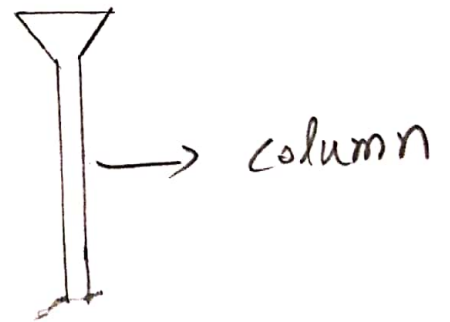
Door



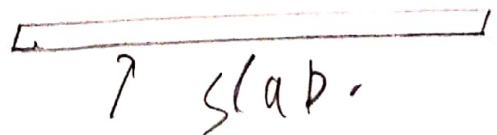
window



Beam



column



slab

Q H 4

1

Ans

A Damp-proof course (DPC) is a horizontal barrier in a wall designed to resist moisture rising through the structure by capillary action - a phenomenon known as rising damp (DPC) is used to stop dampness in a building it may damage them by creating cracks breaking cement paints ponds and creating dark spots on the wall etc. So to avoid water from reaching to the wall DPC is laid all

at plinth level.

the joint level of the wall
and foundation)

=> The importance of good damp

proofing around the home, Having

a damp and mildew environment

in the house often causes

problem for people suffering from

asthma. The best solution

is ~~to~~ to proof the house and

make it free from any sort of

excess moisture. The most common

way to damp proofing method

Since 1970 more than a million homes have benefited from this damp proofing system.

The importance of Damp

Proofing Building Damp problems

are one of the most recurrent

issues affecting buildings and

protection of a building starts

in its most basic construction.

It is easier to prevent rising damp

than it is to treat it and

this is where damp proofing

comes in.

9

They are moisture control treatment applied to the walls and floor of building to prevent damp problems.

→ when damp proofing isn't administered adequately there will be very little protection for the walls and floor of building against damp.

These will inevitably lead to mould, dark and damp patches on walls, wall paper stains, wet, rot, peeling wall paper, peeling paints, musty and damp smells, salt stains on outside wall, the decay of timber.

and plaster and crumbling mortar on outside walls.

Any or All of these are likely to lead to expensive and extensive property restoration work by a building contractor.

Characteristics of EPM roof course membrane and itself

-> Exceptional contraction expansion

characteristic with up to 400% elongation

-> temperature stable from 40°C to 120°C

• superior resistance to weathering

Ozone ultra violet.

-> will not discolour masonry

smear - like vinyl avoid.

- Life expectancy of over 40 years
- compatible with a wide range of substrates.
- Contains no environmental pollution

The End of this Question

→ when it comes to internal building problems, damp is one of the most frequent that we have to deal with regardless of whether the building is commercial or residential building. With rising damp, it is always easier ^{which this is} ~~why~~ why damp ^{to} proof is not necessary.

→ If damp proofing is not installed properly or not at all, there will be little to no protection for the wall and floor. Ultimately, this will lead to mould, damp patches on the walls, stains, wet rot, peeling wall paper and musty smells, all of which ^{we'd certainly} ~~to~~ avoid.