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Submitted To

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Subject

CED and graphics
(theory)

Date

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①

Q1:-

Ans:- plumbing is system of pipes, drains fittings, valves, valve assemblies and devices installed in a building for distribution of water for drinking, heating and washing.

Major elements in plumbing systems

(1) Plumbing fixture :-

The water supply of a building distributes water to plumbing fixtures at points of use.

Fixture include kitchen, sink, water closets, shower etc.

(2) Riser :- A water supply pipe which extends vertically on full storey or more convey water to branches

(3) Waste pipe :- A waste pipe is a pipe which convey only liquid waste free of faecal matter.

(4) Soil pipe :- it is any pipe which convey the discharge of water closets fixtures having similar function, with or without the discharge of other fixture to the building drain.

(2)

(5) vent pipe :-

A vent system is a pipe or pipes installed to provide a flow of air to or from a drainage system or to provide a circulation of air within such system to protect trap seals from siphonage and back pressure.

(6) Stack :- A stack is the vertical main of a system of soil waste, or vent piping.

(7) Stack vent :- it is the extension of soil or waste stack above the ~~low~~ highest horizontal drain connected to the stack.

(8) Trap :- Trap is the fitting or device so designed and constructed as to provide when properly vented a liquid seal which prevent the back passage of air without materially affecting the flow of sewage or waste water through it.

(9) ~~Trap seal~~ :-

(3)


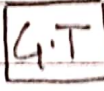
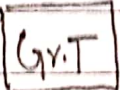






⑨ clean outs :- It is an opening that provides access to a pipe, either directly or through a short branch to permit cleaning of the pipe. The opening is kept plugged until the plug has to be removed for cleaning of the sewer. The horizontal drain line at least 100 ft.

⇒ For plumbing purposes, the term "multi-storey" is applied to buildings that are too tall to be supplied throughout by the normal pressure in the public water mains. These buildings have particular needs in the design of their sanitary drainage and venting system,

4

Q.2:-

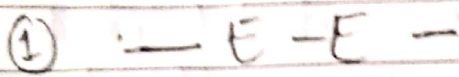
Ans:- Sewerage symbols :-

- ① → S → S → Main sewerage line
- ② → S →  → S → Manhole
- ③ → S →  → S → Gully Trap
- ④ → S →  → S → Grease Trap
- ⑤ → S →  → S → Floor Drain
- ⑥ → S →  Waste pipe
- ⑦ → S →  Soil pipe
- ⑧ → S →  Vent Through the Roof
- ⑨ → S →  Roof Drain
- ⑩ → S →  Down pipe for rain water

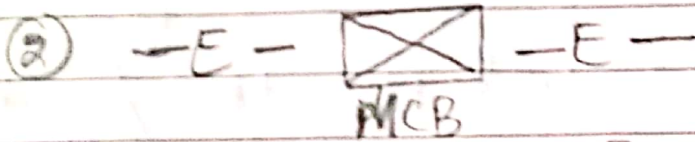
(5)

Date _____

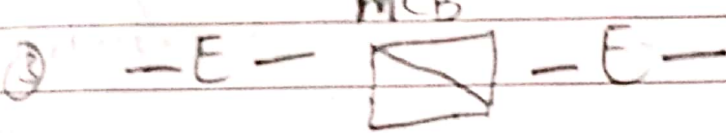
Electrical symbols :-



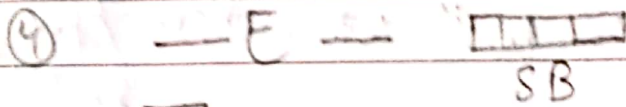
Main supply line



Main control Board



Distribution Board



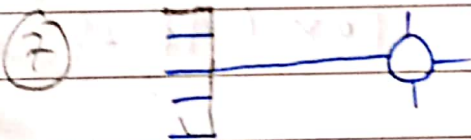
Switch Board



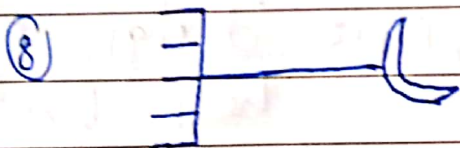
Electrical outlet - 5 Amps



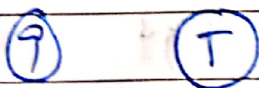
Electrical outlet - 15 Amps



Gate light



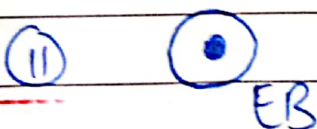
Security light



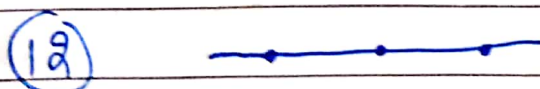
Telephone socket



Bell push



Call bell



Mirror light

6

Date _____

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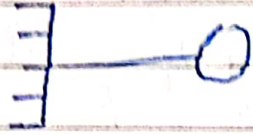
ceiling Mounted / porch light

14



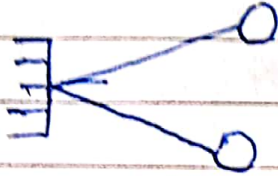
ceiling Mounted / Globe light

15



Wall Mounted / Globe light

16



Wall Mounted / Fancy light

17



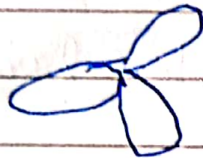
Tube light - 4ft long

18



Exhaust Fan

19



ceiling Fan (48" - 56" dia)

When used in graphic design, symbols and icons can help break up dense passages of text making it easier to digest. But symbols and icons are not just communication tools.

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Date _____

Q3:- Briefly describe various components of frame structure along with diagrams?

Ans:-

Different types of frame structures that have been used in building construction. They are ~~all~~ classified into two major types ~~namely~~

① Rigid frame structure.

② Braced frame structure.

Different types of frame structures can be constructed from various materials such as reinforcement concrete, steel and wood. A frame structure is a structure having combination of beam, column and slab to resist the lateral and gravity loads. These structures are usually used to overcome the large moments developing due to applied loading.

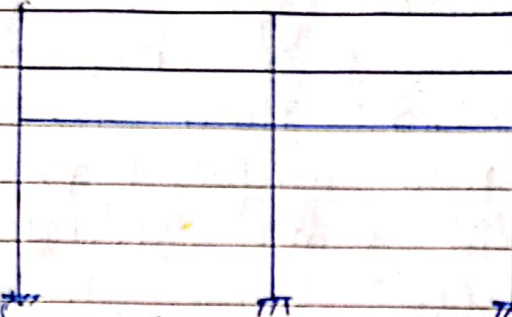
① Rigid frame ~~structure~~ systems:- A rigid frame is capable to resisting both vertical and lateral loads by the bending of columns and beams

① Rigid frame structure :- They are classified into two main types

(i) Rigid

(i) Fix Ended Rigid Frame structures

The supports of the rigid frame is fix ended as shown in figure



(ii) Pin Ended rigid frame structure:-

The support of this type of rigid frame is pin ended, and it is not considered to rigid frame if its support conditions are removed.

Braced fra



Braced frame systems:-

Braced frames are composed of beams, and columns that are pin connected with bracing to resist lateral loads. The resistance of lateral forces is obtained through both horizontal and vertical bracing

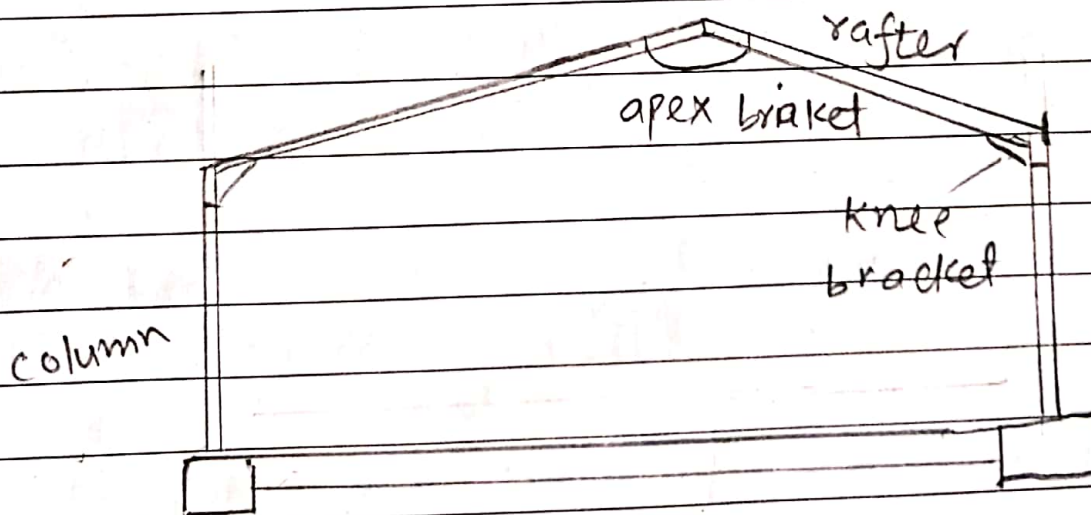
(9)

(i) Gabled frames :-

it is usually ~~has~~ has the peak of their top. This frame system is used where there are possibilities of heavy rain and snow.

(ii) Portal Frames :-

portal frames look like a door and very much in use for construction of industrial and commercial building.



Q48 What is the importance and characteristics of Damp proof course

Ans:-

= A damp proof course is a barrier through the structure design to prevent moisture rising by capillary action such as through a phenomena known as rising damp. Rising damp is the effect of water rising from the ground into property. The damp proof may be horizontal and vertical.

Characteristics of Damp proof course:-

① it should be impervious.

② it should be strong and durable and should be capable of withstanding both dead as well as live loads without damage.

③ it should be dimensionally stable.

④ it should be free from deliquescent salts like sulfates, chlorides and nitrates