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Semester : 2nd

Section : A

Assignment : Introduction to Architecture
and Town Planning

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Green Building :- Positive points and negative points.

Positive Points :-

1) Cost :- Investing in green building is 10 time more profitable than standard ones.

2) Efficiency :-
A - Water efficiency.
B - Energy efficiency.
C - Material efficiency.

3) Preserving Infrastructure :-

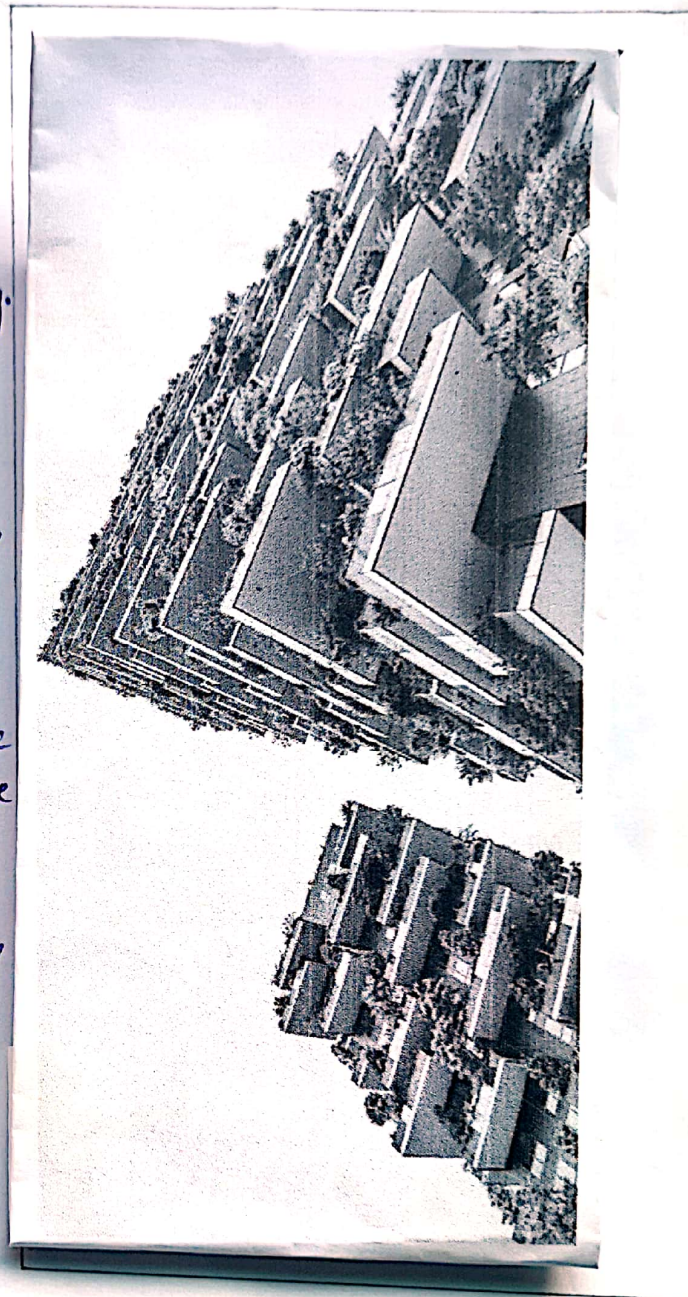
Being efficient in both energy and water supply, these buildings stretch the capacity of local infrastructure greatly.

4) High Rates :- Considering that these buildings are all natural they have huge returns on investment rates and properties in these building sell at high prices.

Negative Points :-

1) Location :- Since these buildings depend on sun for energy which may demand placing them opposite of other neighborhood homes.

2) Availability :- The materials to build such buildings can be hard to find especially in urban areas where preserving the environment is not the people's first option.

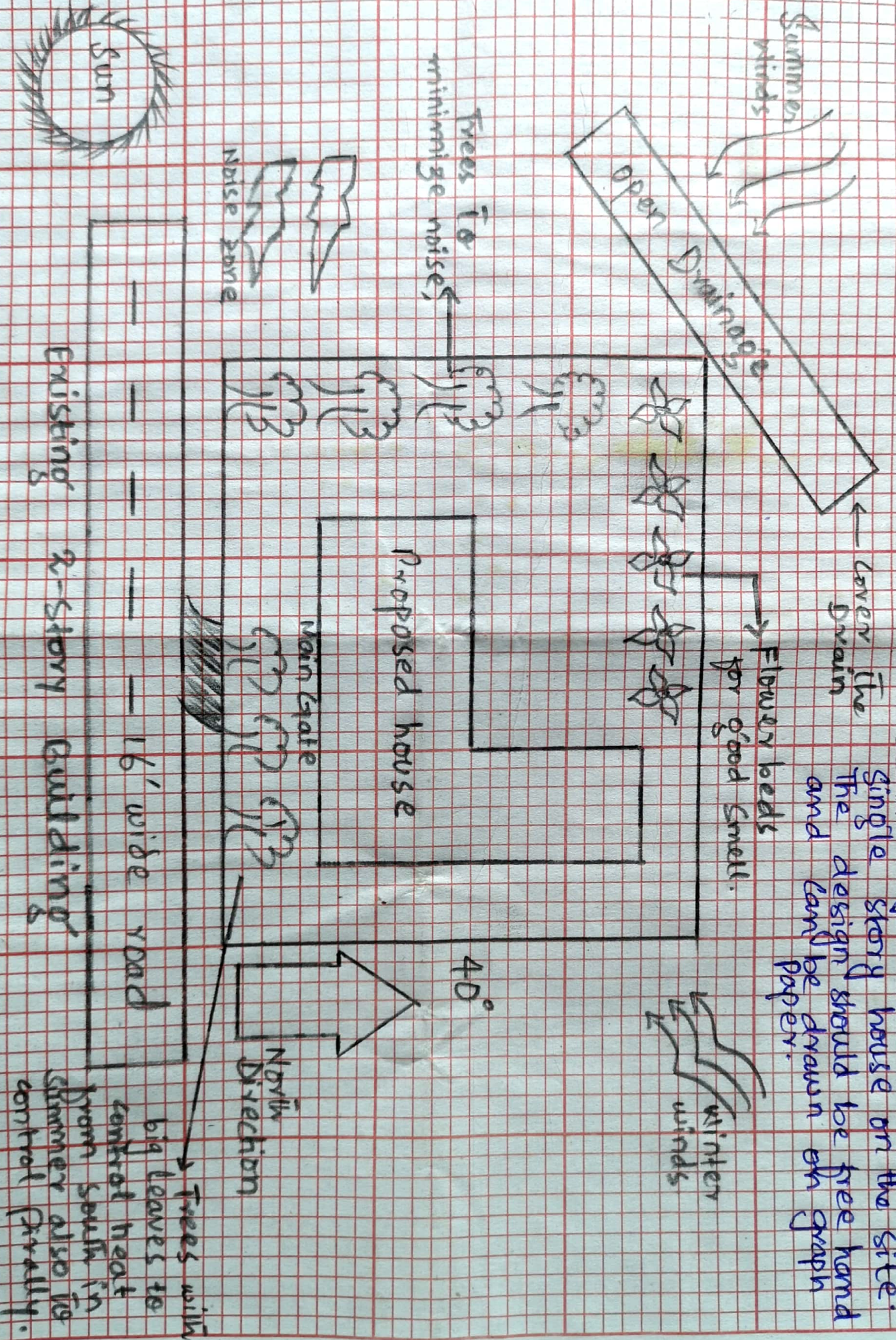


3) No air cooling features :- These building (2)
run on coal to generate power, so they are not designed for hot areas as they do not have any ventilation systems, so air conditioners will be required will make these buildings any thing but ECO friendly.

What could be done to make the building more attractive?

- * Simplify the landscape.
 - * The address numbers.
 - * Wash the facade with light at night.
 - * Paint.
 - * Hide Awkward elements with the non color.
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-

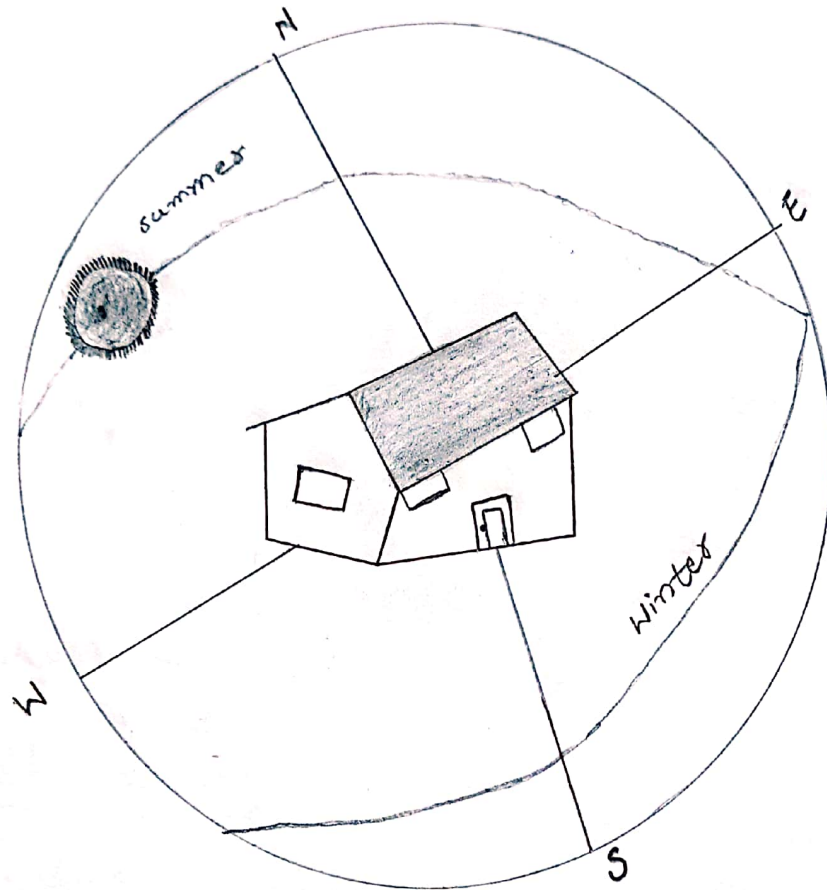
Q2:- Design and sketch an ideal single story house on the site. The design should be free hand and can be drawn on graph paper.



Answer NO :- 03

(3)

Solar Path Diagram.

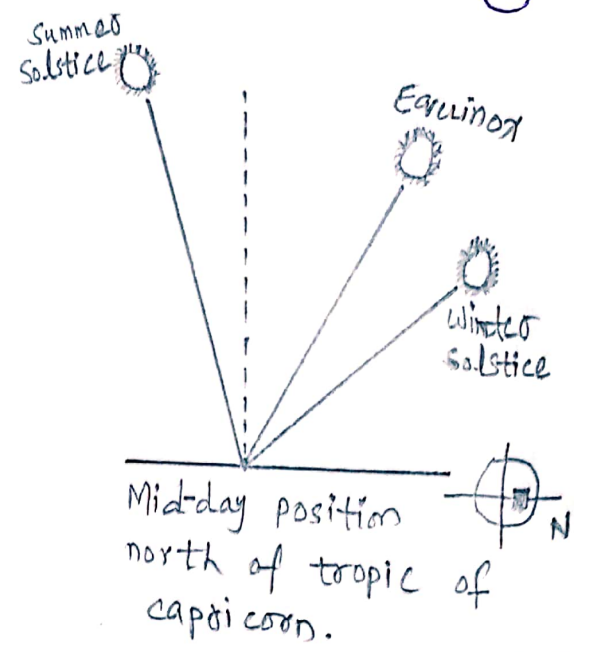
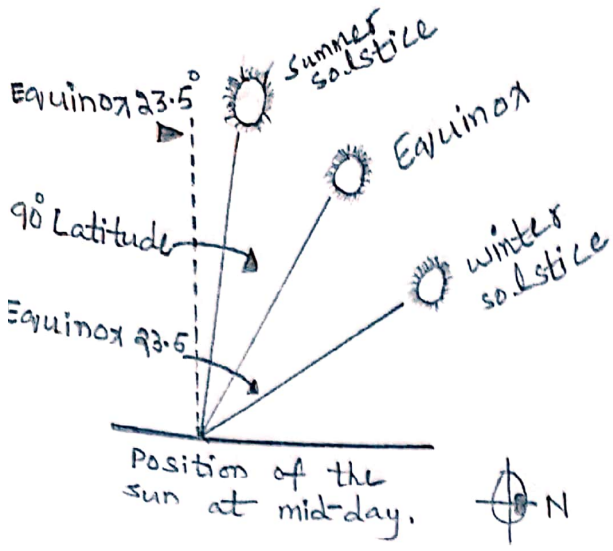


calculating sun angles:- The angle of the

sun in the sky at noon can be easily calculated for the solstices and equinoxes as follows.

- * Equinox = $90^\circ - \text{latitude}$.
- * Summer solstice = Equinox + 23.5°
- * Winter solstice = Equinox - 23.5° .

The diagram for Peshawar below shows why southern must be shaded in tropical locations to keep out the summer sun buildings need to be able to be shaded all year round.



Calculating sun angles :-

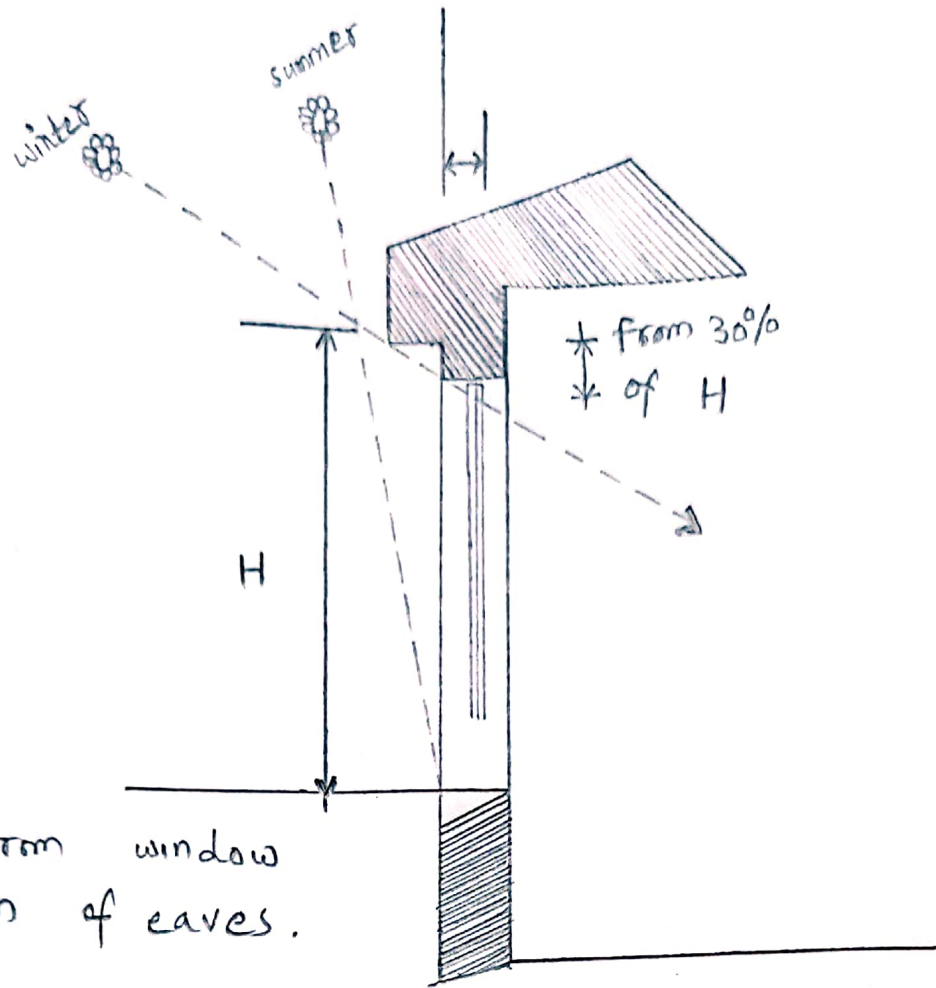
* Many designers have computer aided drafting programs that calculate sun angles and shadows for various locations and topographies based on a digital site survey.

Fixed Shading :-

Fixed shading devices can regulate solar access on northern elevations throughout the year, without requiring any user effort. Summer sun from the north is at a high angle and is easily excluded by fixed horizontal devices over openings.

Eaves :-

Correctly designed eaves are generally the simplest and least expensive shading method for northern elevations and are all that is required on most single-storey houses. Some designers may avoid sizing eaves properly in the mistaken belief that the process is complex.



H = height from window till bottom of eaves.

45% rule of thumb for latitude south of and including 27.5°S.

As a rule of thumb, eaves width should be 45% of the ~~eaves~~ height from the window sill heights where the eaves. Aim for consistent sill heights where possible and consider extending the eaves overhang over full height doors for windows. This allows the 45% rule to be simply met with the following standard eaves.