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Exam :- mid term  
Program :- "BEC"



Q#01

ANS:

Q # 01

page # 01

Ans:

Advantages of this design:-

- "A"  $\Rightarrow$  As some one had mentioned, one of the biggest advantages is of having almost double floor area under same perimeter or v.v.t. single floor houses.
- "B" Better temperature regulation or loss control of ground floor even, if terracing (technical) of first floor has not been done.
- "C"  $\Rightarrow$  In an unorganized neighbourhood where set backs and height are not regulated/followed or in new housing, where houses circling the concerned houses, have more than one floor. Then it is a slight advantage to follow a similar pattern adopted by others, ventilation and lighting of floor above. Ground floor will be better.
- "D"  $\Rightarrow$  multi storied houses are known to cater a better population density. more people on a relative piece of land. In cities due to high land cost and rising population influx, people or multi storied buildings are a viable solution.

page #02

=> Disadvantages of this design:

"A" => it increase the cost of a houses strong foundation bigger service core and stairs case (s) have to be designed. maintenance cost also rises.

"B" many a times a compromise on carpet area has to be made due to the above. Thus even though a duplex will have double the ground floor area but a duplex's ground floor will be smaller than a ground floor residence on the same plot

"C" <sup>top most story of a</sup> A ~~duplex or even a~~ multistoried houses is the hottest portion in composite climate. if terracing (technical) has not been done.

"D" => A duplex or even multistoried houses is less human w.r.t. a single storied houses.

"E" => In some cases a multistoried houses blocks sunlight and ventilation to some extent. This can be taken to court. For legal action in countries such as India (in some cases) as ventilation and lighting is human requirement.

=> These were some that I could recall. I am sure I must have missed some or the other points. please add and improve.

## 2nd page (2)

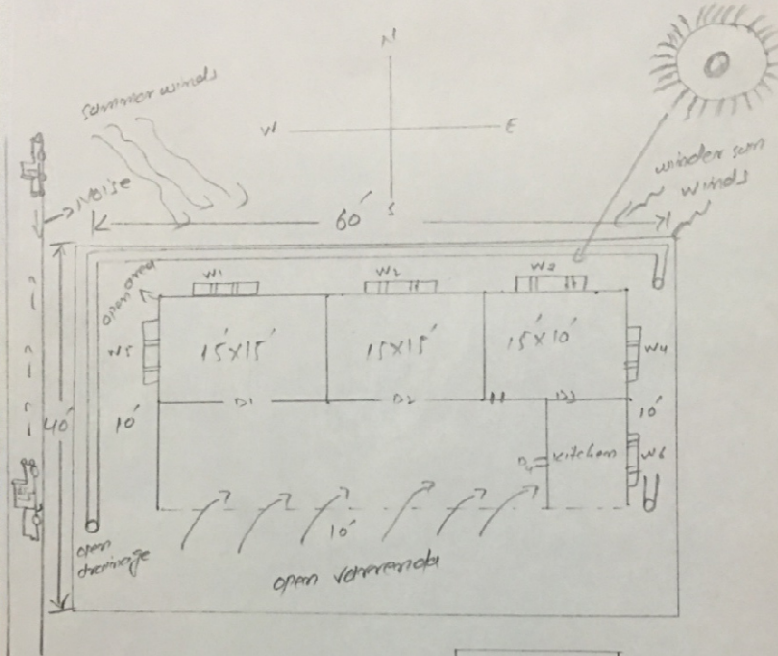
⇒ make building more attractive :

- (1) simplify the landscape.
- (2) paint
- (3) signage
- (4) the address no
- (5) hide awkward elements with men color
- (6) clean exterior surface of glass of house.
- (7) lightings
- (8) directional signs.

Q#02

page #03

Ans



road

$= 60 \times 40 = 2400 \text{ ft}^2$

$6 - 10 - 10 = 40'$

15' Rooms

10' veranda

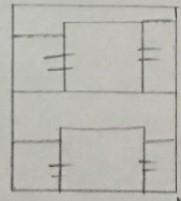
$15 \times 15 \times 10 = 2250$

Room 1 =  $15 \times 15'$

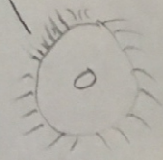
2 =  $15 \times 15'$

(3) =  $15 \times 10'$

two story buildings



shading solar radiation



page # 04:

- ⇒ (1) :- the open area is 60' x 40' plot
- (2) N 5', W 10', E 10', S 10'
- (3) Rectangular wall 4 side height 10', 9"
- (4) three bedrooms + w + ven + height 10'
- (5) Door 20" x window 10" x 10"
- (6) ventilator open for ventilation
- (7) open back, small reduce drainage →  
(over open, pollution, insects + disease.
- (8) winter sun better temperature.  
pleasant ~~and~~ weather.
- (9) summer (green shelter are used for  
block the sun radiation.
- (10) for south two story building the sun  
radiation are blocked.

Noise:

- ① Noise reduced by a cavity wall which we used in all  
external wall of building
- ② also a noise is reduced by a heavy shrubs tree

smell control :-

- ① Bad smell control by plantation of big trees  
and as well as some small good smelling plantation  
which convert a bad smell into a good smell.

Summer wind:

- summer winds can be reduced by high trees  
plantation.

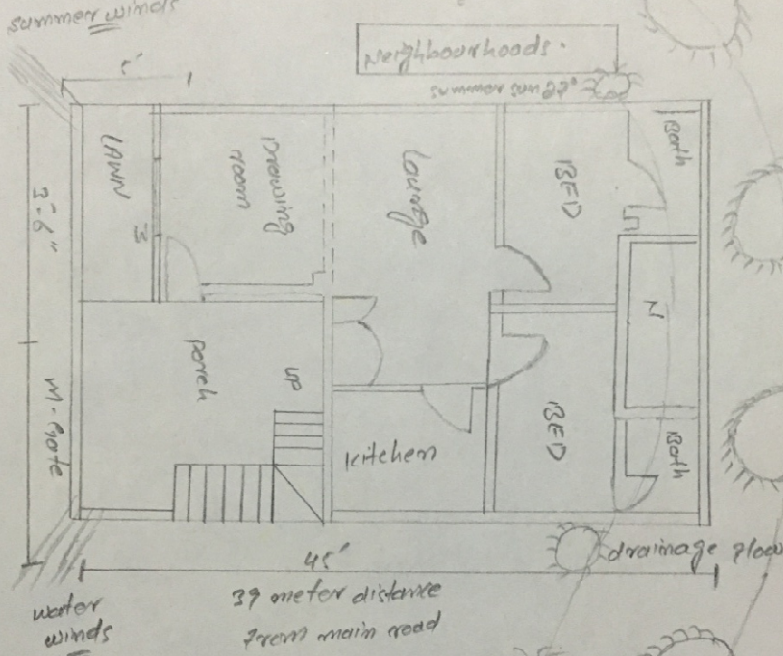
sun problems

- reduced sun in summer and maximum in  
in winter we should use the following steps.
- ① the house story height is = 15m
- (2) keep the window for bed rooms as set to min hot air.  
is reduced in summer and max in winter.

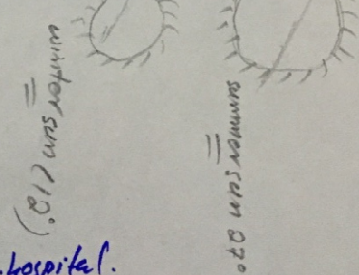
Q #03

(5) page.

Area province icpic  
city = poshawar  
site Related details:  
summer winds

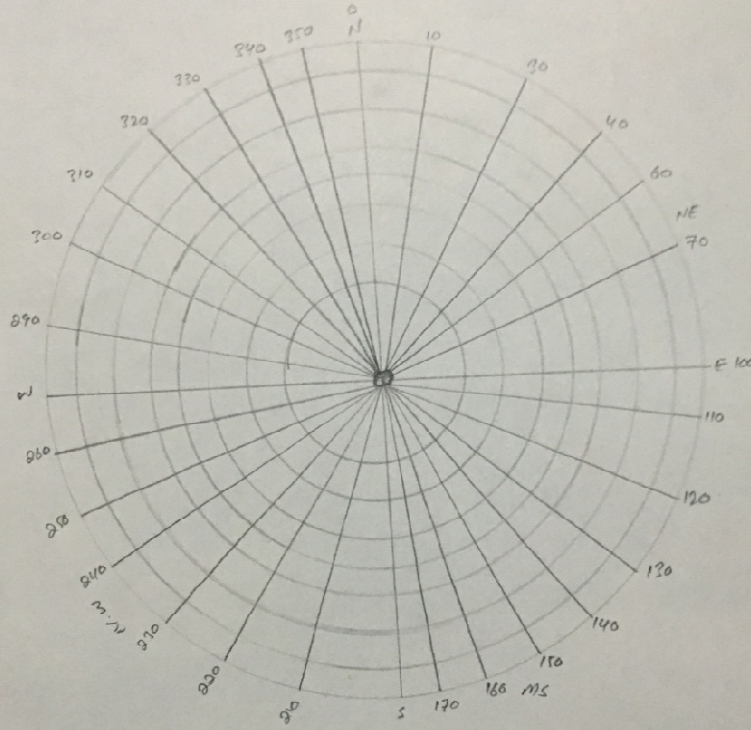


- ① sun direction.
- ② wind direction.
- ③ Neighbour hood.
- ⑤ Noise: No problem
- Access = Access are available.
- For Example: markets, mosque, hospital.





page # 6  
 Solar path Diagrams



Declination	Approximate dates
23.17	Jun 22
20	May 21 - 24 July
15	Apr 16 - 28 Aug
10	3 Apr - 16 Sep
5	
0	21 March - 23 Sep
-5	
-10	Feb 9 - 22 Nov
-15	
-20	21 Jan - 22 Nov
-23.17	22 DEC