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Q1): →

a): → How is Architecture different from Town planning?  
Explain the difference.

<sup>(a)</sup>  
Ans: → Architecture: →  
→ Architecture is both the process and the product of planning, designing and constructing buildings or any other structures. Architectural works in the material form of buildings are often perceived as cultural symbols and as works of art.

→ Architecture provides a sense of place and support of all types of human activity.

→ The selection of forms, shape, materials, texture, colour etc for a structure to make it look elegant and beautiful is called Architecture.

→ It makes of applied services such as structural engineering, sanitation, hygiene and ventilation, etc.

→ It utilizes proper materials at the proper places and in appropriate form.

\*): → Town Planning : →

→ Man-made environment overrides the natural environment.

→ Both man made and natural environment get due respect.

→ Natural environment is dominant.

→ The gradual growth of something so that it become more advanced, stronger etc.

→ The process of decision making whereby resources are allocated for certain strategies to achieve specify goals in the future.

→ The art or process of deciding how something will look, work etc. By drawing plans, making models, etc.

→ The creation, renewal and maintenance of the urban fabric and urban infrastructure.

→ The process of deciding how to lay out a town and what type and style of building to have.

Q1):→

b):→ Among Frame structure and Load Bearing structure which one is least expensive? which one ~~at~~ would you recommend for building a 3-story apartment building? Give Reasons.

Ans):→ Framed Structure:→

→ They consist of a skeleton of beams and columns.

→ The load is transferred from beams to the columns and column intern transfer the load directly to the sub soil through footing.

→ Framed structure are suitable for multistory building subjected to variety of extreme loads like compressive, tensile torsion, shear along with moment.

→ The open space in the skeleton are to be filled with brick walls or glass panels.

\*): → Load Bearing structure: →

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- In this type of structure loads from roof slab or trusses and floor are transmitted through walls to the firm soil below the ground.
- This type of the structural elements like beams, slabs rest directly on the walls.
- Thickness Requirements for Load Bearing masonry wall.
- The thickness of load bearing masonry wall should be at 1 ft. ~~at~~ thick for maximum ~~at~~ ~~load bearing~~ wall height of 35 ft.
- For upper stories the thickness can be minimized to 8".

\*): → I recommend structure for building a 3 story apartment building because.

- Speedy construction due to simplicity in geometry
- Rigid in stable.
- Reduced dead-load absent for thick shear wall etc
- Flexible utilization of space.
- Adaptable to almost any shape that way. I recommend ~~at~~ 3 stories ~~at~~ building.

Q: → What do you know about the Building Design Process? Page (5)

Ans: → The following ~~are~~ <sup>steps</sup> ~~are~~ Building Design process.

- Programming → schematic Design
- Design Development → construction Documents
- Bidding. → construction administration.
- Final certificate.

\*): → Programming: → (Phase 1)

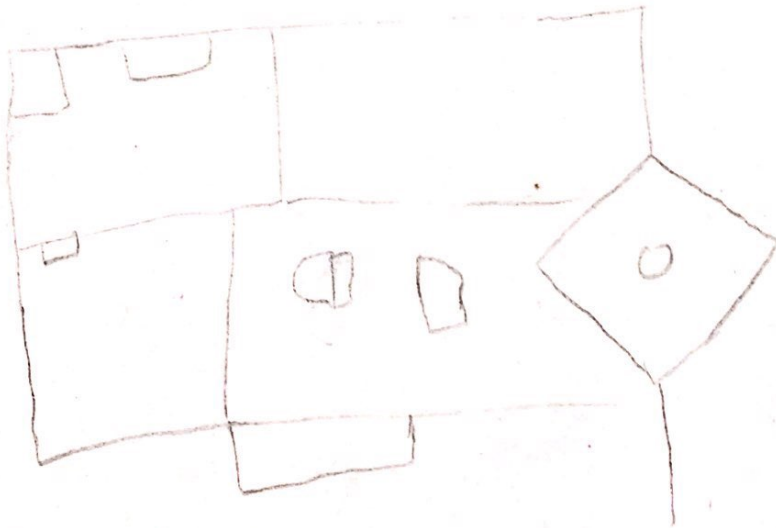
- Architectural programming is the thorough and systematic evaluation of the interrelated values, goals, facts and needs of a client's family and the surrounding community, a well conceived program leads to high quality design.
- Programming is when ~~you~~ you'll meet with your architect to discuss all of your needs and desires for your new home.
- During programming your architect will gather information on your building site or existing home.
- At this time, the owner and architect will begin to form a cohesive relationship and a shared ~~concept~~ concept the final building.

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- Here the scope, feature, purpose and functionality of your home is defined.
  - Together with your architect you develop and refine a "vision" for the project.
  - Your architect leads you through a "programming" exercise to help you the needs of those who will live, work or play in the space you create.
  - You will be asked to consider what you want both aesthetically and functionally of your home.  
what is the time frame for occupying your new home?
  - What are the indoor and outdoor space requirements or the likely movements and interactions ~~of~~ ~~those who will be living~~ those who will be living and visiting your home?
  - The answers to these and other questions will provide insight into uses and living conditions; insights your architect will use to design a home create specifically for you and your life style.
  - This is the point where the budget for your project will be discussed. It is helpful for your to understand the costs of constructing a custom home can vary \$250 per square foot to \$450+, depending

on the variable of site, size, structure and specifications. PAGE(7)

\*) → Schematic Design → (Phase 2)

- Once the requirement of the project are determined via the programming process, the design phase begins.
- Your architect gives shape to your vision through drawings.
- The architect provides a preliminary evaluation of the program, schedule and construction budget developed in the pre-design phase and prepares schematic design drawing illustrating the project to review with the owner.

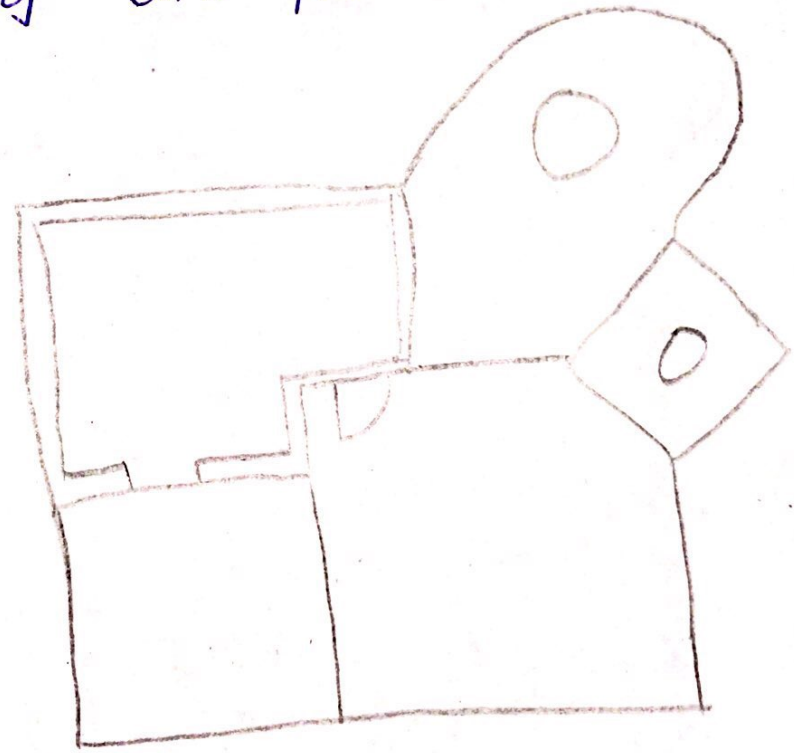


The schematic design phase with rough sketches.

→ The design lay out the program on the site and address schedule and construction ~~budget~~ budget requirements.

→ You input into this phase is vital, as you get the first glimpses and then a more defined look at how your home will take shape.

→ It is important to establish a clear decision making with your architect during this phase.



AS YOU move through the schematic design phase, your home will become more defined.



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- Once approved by the client drawing at this stage are usually sufficient to initiate any neighborhood review process.
  - If you are working with a builder at this point in the process they will discuss a preliminary estimate of construction cost.

\*) : → Design Development: → (Phase-3)  
→ During this phase schematic design is refined into the final design.

→ In previous phases, the ~~the~~ focus has been on the project as a whole.

→ During Design Development, it becomes important to give individual attention to each aspect, each space and each detail of the project.

→ Detail ~~plans~~ plans with furniture and fixtures, ~~interior~~ interior finishes and products computer model showing selected materials use of the available floor area relationship with its surroundings.

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- Outline compliance with the building and planning regulations.
  - At the conclusion of the Detailed design, the building is sufficiently defined to give a clear understanding of the scope of work, approximate cost, and the architectural look and feel of the building.

\*): → Construction Document: → Phase - 4

- At this stage the focus shifts from design to communicating the design and providing all information necessary for construction.
- The final documents will be sent out to additional specialists like structural and mechanical engineers, landscape architect.
- This includes general arrangement, drawings, detail drawings, schedules, specification and Bill of quantities.

→ The client is advised on the durability of the materials and solution adopted at this stage and on the relative maintenance and life cycle costs associated with these decisions.

\*): → Bidding: → (Phase - 5)

→ At this time the owner prepares to select the contractor and sign contracts to proceed with construction.

→ If you have an exact budget in mind at the beginning of the process, it is recommended for the client to hire a contractor to consult and review the schematic design, design development and construction drawings from the beginning in order to ensure the project is within the specified budget.

\*):→ Construction Administration:→ (Phase-6) Page(12)

- This is the construction stage of the project.
- The building will be built under a contract between the client and contractor.
- On typical projects the architect does not supervise construction.
- The architect will periodically visit the site to ensure that the work is executed in accordance with the contract documents.

\*):→ Final Certificate:→ (Phase-7)

- The Architect stays on the project until the building is completed.
- With the completion of the construction works, the calculation of the final statement of costs is undertaken.

Q3: →

a) →

Ans  
~~Sol~~

Given Data

Plot/lot area = 10000 sq ft

F.A.R = 1:01

• The building having n+2 floors.

Required,

Each floor area of Building = ?

All floor area = ?

Sol: → as we know that,

$$\text{F.A.R} = \frac{\text{Floor area}}{\text{lot area}}$$

we find the total floor area = x

$$\frac{x}{10000} = 1.0 \text{ F.A.R}$$

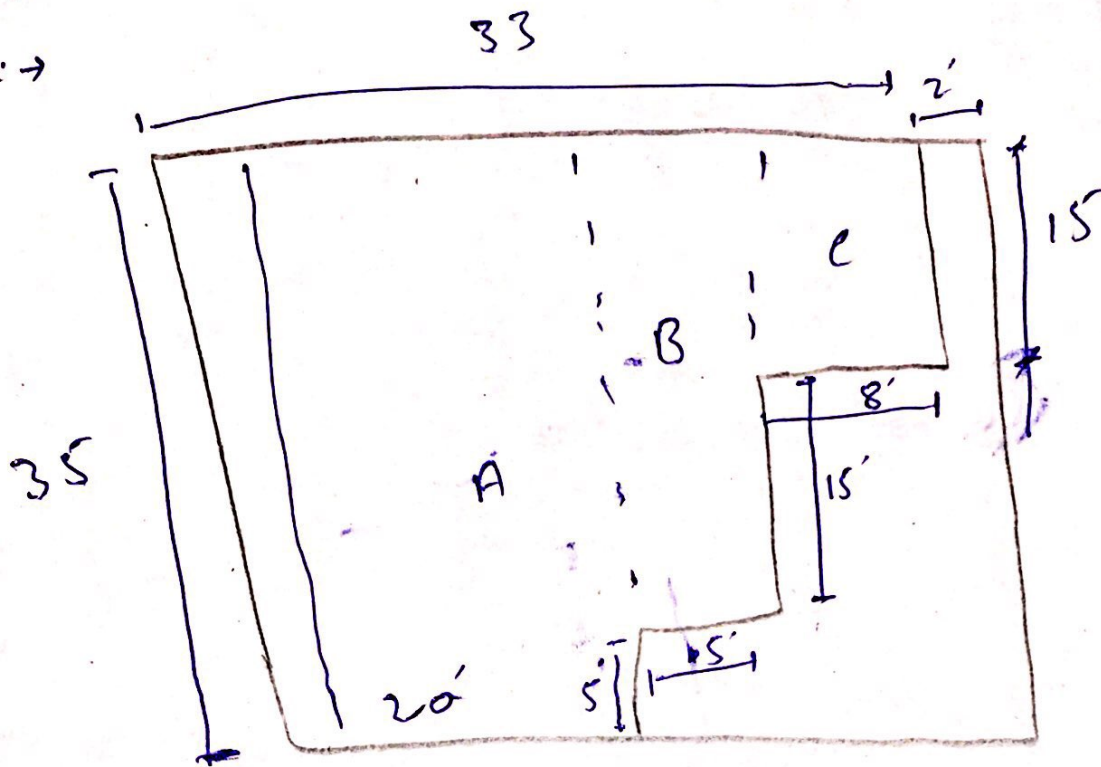
$$x = 10000 \times 0.1 = 1000 \text{ sq ft}$$

$$\text{So for each floor } \frac{1000}{3} = 333.3 \text{ sq ft}$$

Q3

b) : →

Ans : →



First we find area for A which is rectangle

$$\text{Area of A} = L \times w$$

$$A = 35 \times 20 = 700 \text{ sq ft}$$

$$\text{Area B} = 3 \times 5 = 15 \text{ sq ft}$$

$$\text{Area C} = 15 \times 8 = 120 \text{ sq ft}$$

Add A+B+C which will be,

$$A+B+C = 970 \text{ sq ft}$$