1.3 MODULAR COORDINATION

Modular coordination means the interdependent arrangement of a dimension based on a primary value accepted as a module. The strict observance of rules of modular coordination facilitated,

1. Assembly of single components into large components.
2. Fewest possible different types of component.
3. Minimum wastage of cutting needed.

Modular coordination is the basis for a standardization of a mass production of component. A set of rules would be adequate for meeting the requirements of conventional and prefabricated construction.

These rules are adaptable for,

a.The planning grid in both directions of the horizontal plan shall be

1. 3m for residential and institutional buildings,
2. For industrial buildings,

- 15m for spans up to 12m
- 30m for spans between 12m and 18m
- 60m for spans over 18m

The center lines of load bearing walls shall coincide with the grid lines.

b. In case of external walls the grid lines shall coincide with the center line of the wall or a line on the wall 5 cm from the internal face of the wall.

c. The planning module in the vertical direction shall be 1m up to and including a height of 2.8m.

d. Preferred increments for the still heights, doors, windows and other fenestration shall be 1m. e. In case of internal columns the grid lines shall coincide with the center lines of columns.

e. In case of external columns, the grid lines shall coincide with the center lines

of the columns in the storey or a line in the column from the internal face of the column in the topmost storey.

A basic module can be represented as module and for larger project modules are represented Mp. For eg: For a project module in horizontal coordination, the component can be of 30cm and for vertical component size be of 10cm.

The storey height is fixed between finished floor levels as 2.8m and if the thickness of slab is<15cm storey height is fixed as 2.7m. The Centre distance between the load bearing walls can be chose from a set of modules. The use of other dimensions is not allowed.

In the design of a building, modular grid can be used consisting of parallel line spaced at a value of module M or Mp and a grid line chosen as a base for setting out a part of a building becomes a modular axis.

In the fig (a), a typical grid is chosen for load bearing walls without duct. The interior walls are placed so that their centerlines coincide with the modular axis. In the fig (b), a grid is shown for load bearing walls with hollow ducts in between. The centre line of the grid is found by deducting the size of duct.