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NATA 2021
PREPARATORY GUIDE

PREPARED BY
EXPERTS IN ARCHITECTURE EDUCATION

ANNA UNIVERSITY
COUNSELLING CODE
1152

B.Arch., 971054545 / 9710930025

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A STANDALONE ARCHITECTURE COLLEGE IN CHENNAI OF INTERNATIONAL STANDARDS | www.caad.ac.in

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INDEX

INTRODUCTION

What is MCQ, MSQ, PCQ AND NAQ?

MCQ – Multiple Choice Question
This is a type of question in which multiple answer choices are provided, of which one is the correct answer.

A **multiple-choice question** is normally composed of two parts: a stem that identifies the **question** or problem, and a set of alternatives or possible **answers** that contain a key that is the best answer to the **question**, and a number of distractors that are plausible but incorrect **answers** to the **question**.

MSQ – Multiple Select Question
MSQ type question is similar to MCQ but with a difference that there may be one or more than one choice(s) that are correct out of the multiple given choices. MSQ is a **multiple answer select type question** where 8 to 10 answer choices are provided, out of which 4 or 5 answer choices related to the question would comprise of the correct answer. Full marks are awarded on selection of all the choices relevant to the question.
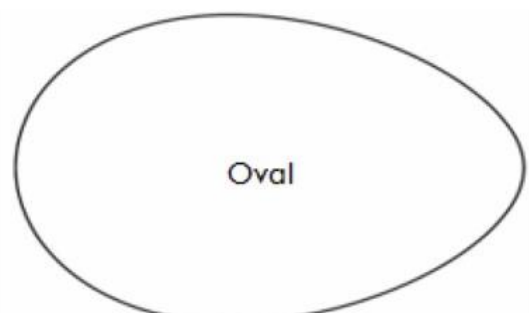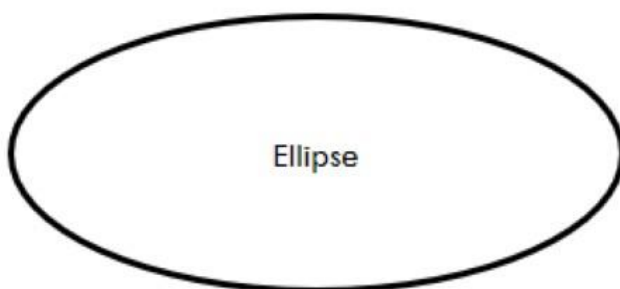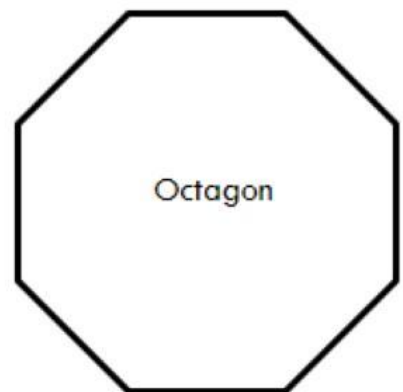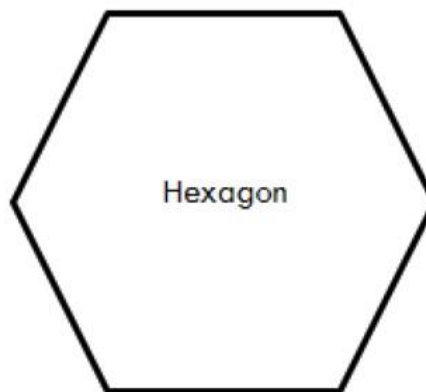
PCQ – Preferential Choice Question
This is the preferential answer type of question where each answer choice has a mark awarded. The mark is awarded based on the candidate's choice of answer.

NAQ – Numerical Answer Question
Numerical Answer question is a type of question in which no answer choices are given. The candidate has to provide a numerical answer. Alternatively, it could also be a fill in the blank question where the answer has to be filled in the blank given. The mark is awarded if the correct answer is written.
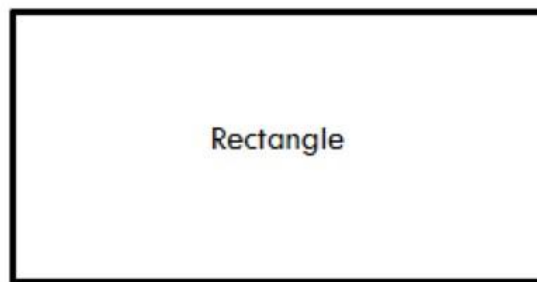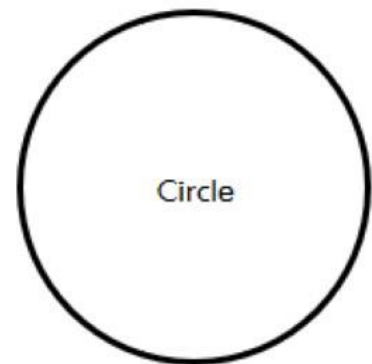
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www.caad.ac.in   9710 93 0025   caad ▢▢ CHENNAI ACADEMY OF ARCHITECTURE AND DESIGN

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01 **ELEMENTS OF DESIGN** *(Visual Principles of Composition)*

INTRODUCTION TO BASIC SHAPES

Triangle

Square

Circle

Rectangle

Parallelogram

Rhombus

Pentagon

Hexagon

Octagon

Ellipse

Oval

01 ELEMENTS OF DESIGN *(Visual Principles of Composition)*
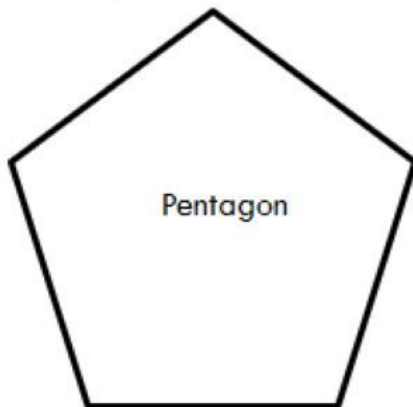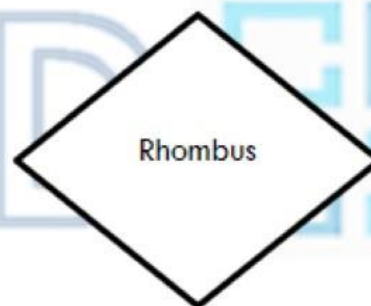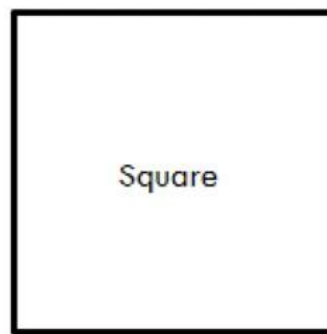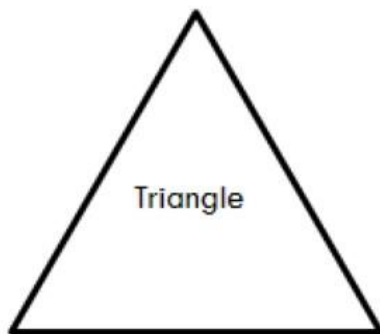
INTRODUCTION TO PRIMARY SOLIDS

SPHERE
A solid generated by the revolution of a circle about its diameter. It has no directional quality, neither horizontal nor vertical, but simply sta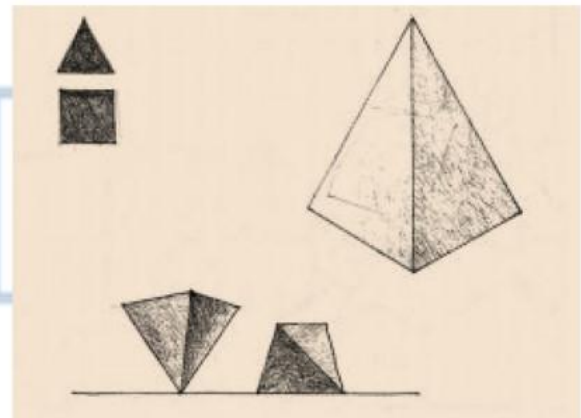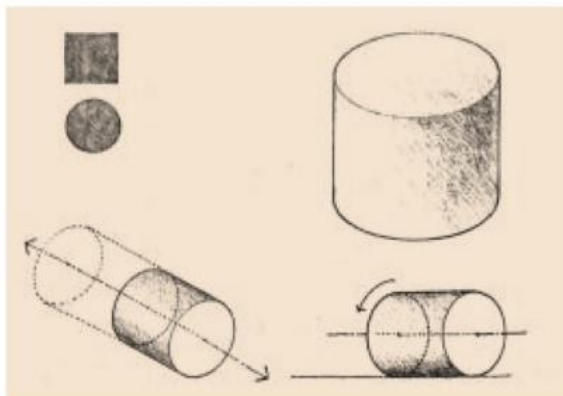tic A sphere is a centralized and highly concentrated form. It is self-centred & normally stable in its environment. In any point it retains its circular shape.

CYLINDER
A solid generated by the revolution of a rectangle about one of its sides. A cylinder is centralized about the axis passing through the centres of two circular faces. A cylinder is stable if its rests on its one of the circular faces.

CONE
A solid generated by the revolution of a right triangle about one of its sides. Like the cylinder, the cone is a highly stable form when resting on its circular base. It can also rest on its apex in a precarious state of balance.
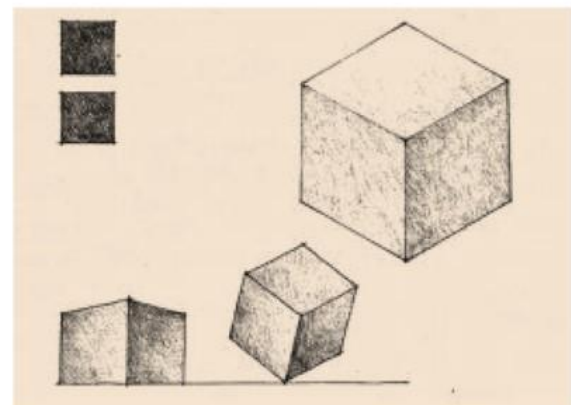
PYRAMID
A polyhedron having a polygonal base and triangular faces meeting at a common point or vertex. The pyramid has properties similar to those of the cone. Because all of its sides are flat planes. However its stable on all its faces.

CUBE
Prismatic solid bounded by six equal square sides, the angle between any two adjacent faces being a right angle. It is stable on all its sides excepts when it stand on its edges.

Reference: Architecture Form, Space and Order - FRANCIS D.K CHING

01   ELEMENTS OF DESIGN   *(Visual Principles of Composition)*

# INTRODUCTION TO ELEMENTS IN ARCHITECTURE

POINT

A point or mark is the smallest and most basic element. The single point represents a visual stop. Two points represent a direction. Three points makes the eyes move in a closed path. They signify a shape.

2 point geometry   *3 point geometry*   *4 point geometry*
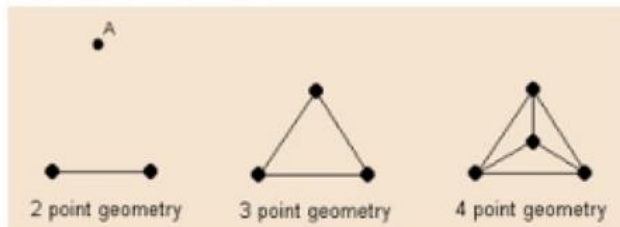
LINE

Point that is extended along a direction. Line has length and describes a point in motion. Expresses direction, movement and growth. Line also defines the edges of planes and give them the shape. A Line can articulate the surfaces of planes. A line is a form with width and length, but no depth. The direction, weight, and character of line convey many different states and emotions.
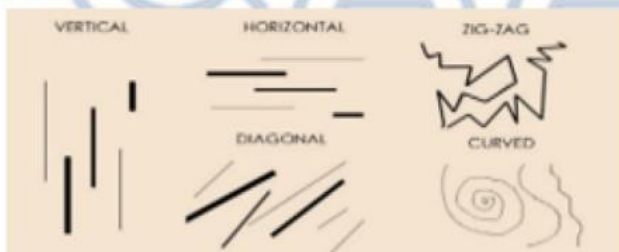
SHAPE

Shape is an area that is contained within implied lines. Shapes have two dimensions-length and width, and can be geometric or free-form. A shape is formed when the lines encloses an area. Shapes whether geometric or organic it adds interest to the design.

Triangle   Circle   Square
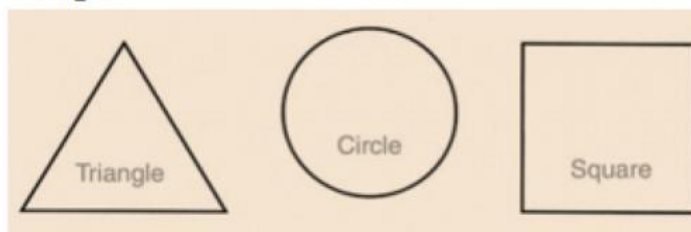
SPACE

Space is three-dimensional volume that can be empty or filled with objects. It has width, height, and depth. The form defines the space.

COLOUR

Colour adds the magic element to a design. Each colour has a mood, an emotion and different levels of significance.

Colours can reflect warm or cool, hard or soft, light or dark, passive or active, all of which when used individually or in combination of one another greatly affects the mood.

FORM

Form is any three dimensional object. They can be measured in terms of height, width, breadth. Form describes volume and mass, or the three dimensional aspects of objects that take up space.
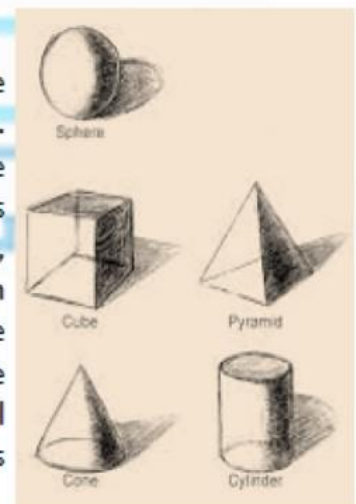
TEXTURE

Texture refers to the surface quality. Textures can create a more three-dimensional appearance on this two-dimensional surface. it can be categorized as visual and tactile texture.


Reference: Architecture Form, Space and Order - FRANCIS D.K CHING

02   **PRINCIPLES OF DESIGN**   *(Visual Principles of Composition)*

## INTRODUCTION TO PRINCIPLES IN ARCHITECTURE

AXIS

A Line established by two point in space about which form and spaces can be arranged in symmetrical and balanced manner

SYMMETRY

The balanced distribution and arrangement of equivalent forms and spaces on opposite sides of dividing plane or about a centre axis
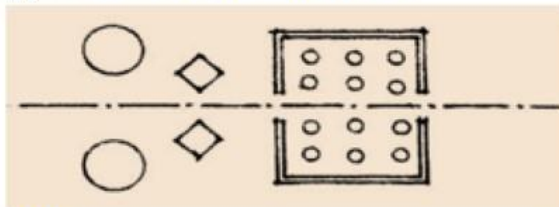
ASYMMETRY

Asymmetrical or Informal Balance Parts of the design are not identical but are equal in visual weight on opposite sides of dividing plane or about a centre axis

SYMMETRIC   ASYMMETRIC
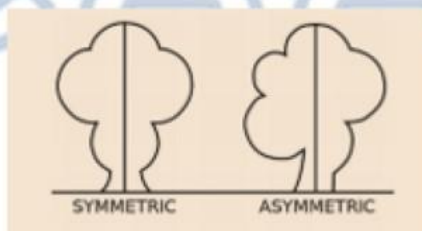
HIERARCHY

The articulation of importance and significance of form or space by its size shape and placement relative to other forms and spaces of organization
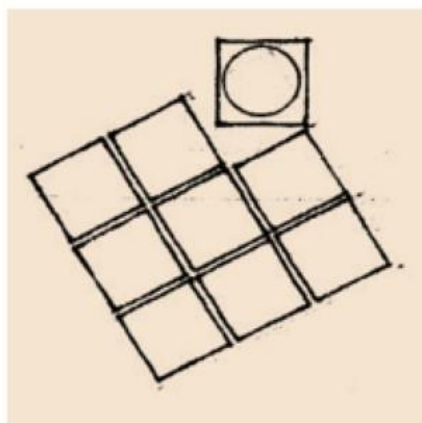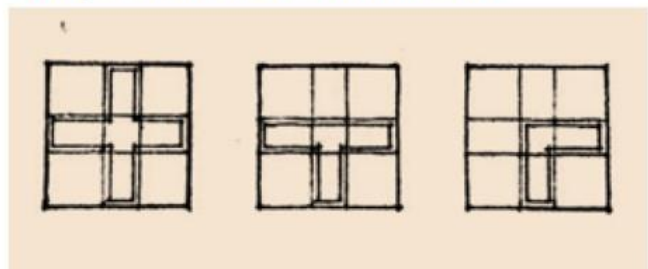
RHYTHM

Unifying movement characterized by patterned repetition or alteration of formal elements or motifs in same or modified forms
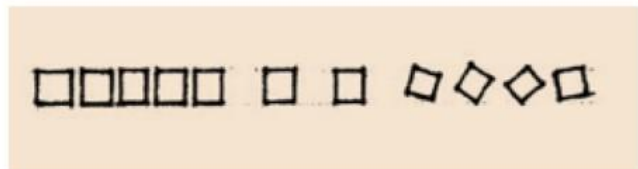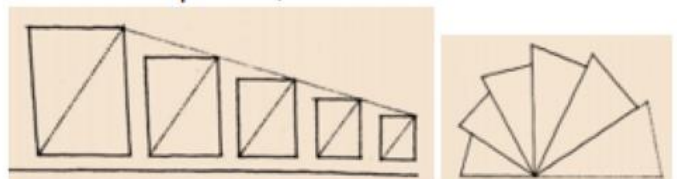
DATUM

A line plane or volume that , by its continuity and regularity , serves together , measure and organize a pattern of form and spaces.
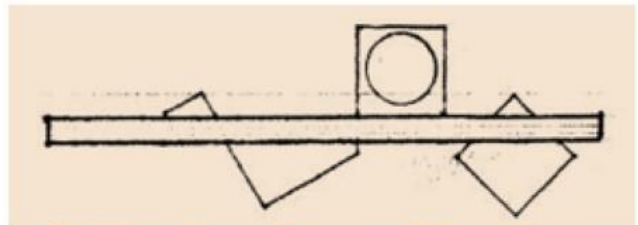
TRANSFORMATION

The principle that an architectural concept or organization can be retained, strengthened and built upon through a series of discrete manipulation and transformations.

REPETITION

Repetition refers to one object or shape repeated; pattern is a combination of elements or shapes repeated in a recurring and regular arrangement; Rhythm is a combination of elements repeated, but with variations
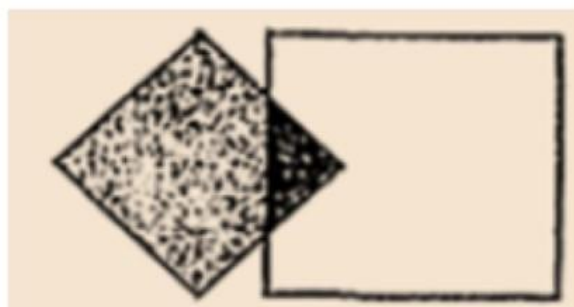
Reference: Architecture Form, Space and Order - FRANCIS D.K CHING

03 ORGANISING PRINCIPLES *(Spatial Relationship between Objects)*

INTRODUCTION TO SPATIAL RELATIONSHIPS
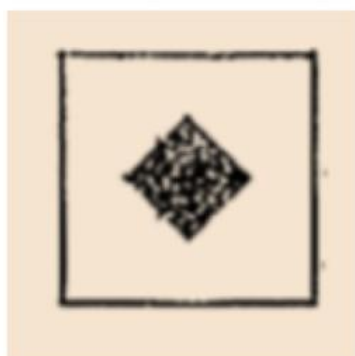
SPACE WITHIN A SPACE

A large space can envelope and contain a similar space within its volume. Visual and spatial continuity between the two spaces can be easily accommodated
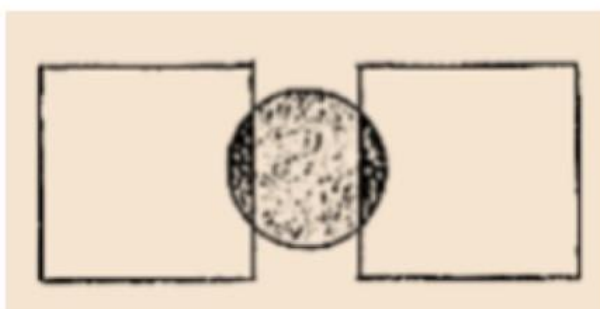
INTERLOCKING SPACES

An interlocking spatial relationship results from the overlapping of two spatial fields and the emergence of a zone of a shared space. Each space interlocking retains its identity. But the intersection of two spaces is subjected to a number of interpretations

ADJACENT SPACES

Two spaces may abut each other or share a common border. It allows each space to be clearly defined and to respond, each in its own way to functional or symbolic requirements

SPACES LINKED BY A COMMON SPACE

Two spaces which are separated by a distance can be linked or related to each other by a third, intermediate space. The visual and the spatial relationship between the two spaces depends on the nature of the third space.

Reference: Architecture Form, Space and Order - FRANCIS D.K CHING

03 **ORGANISING PRINCIPLES** *(Spatial Relationship between Objects)*

INTRODUCTION TO SPATIAL ORGANIZATION
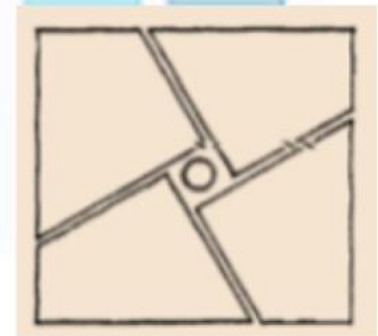
CENTRALIZED ORGANIZATION

A centralized organization is a stable, concentrated composition that consists of a number of secondary spaces grouped around a large, dominant central space. The central unifying space of the organization is generally regular in form and large enough in size to gather a number of secondary spaces about its perimeter.
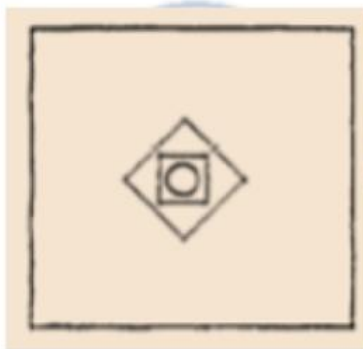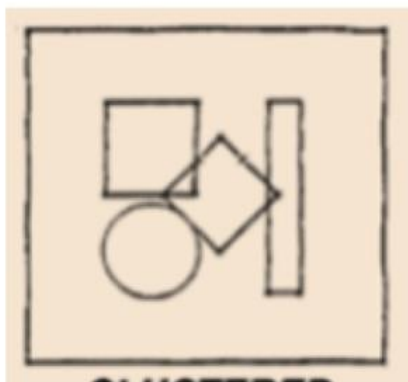
LINEAR ORGANIZATION

A linear organization consists essentially of a series of spaces. These spaces can either be directly related to one another or be linked through a separate and distant linear space. It usually consists of repetitive spaces which are similar in size, form and function. It may consist of a single linear space that organizes along its length a series of spaces that differ in size, form and function.
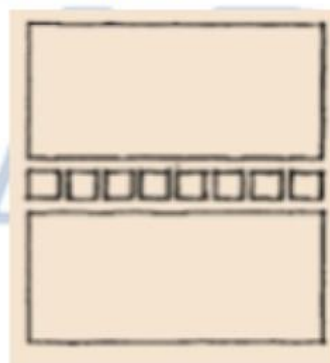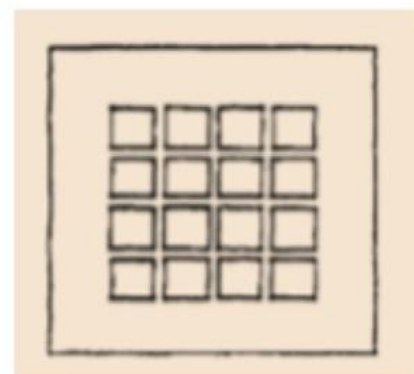
RADIAL ORGANIZATION

A radial organization of space combines elements of both centralized and linear organizations. It consists of a dominant central space from which a number of linear organizations extend in a radial manner. Whereas a centralized organization is an introvert scheme that focuses inward on its central space a radial organization is an extrovert plan that reaches out to its context.

CLUSTERED ORGANIZATION

A clustered organization grouped by proximity or the sharing of a common visual trait or relationship

GRID ORGANIZATION

Space organized within the field of a structural grid or another three dimensional framework

Reference: Architecture Form, Space and Order - FRANCIS D.K CHING