

KP GATE CLASSES, NEW DELHI - INDIA'S No. 1 GATE AR COACHING

**ARCHITECTURAL DESIGN, GRAPHICS,
AND STANDARDS**

KP GATE CLASSES

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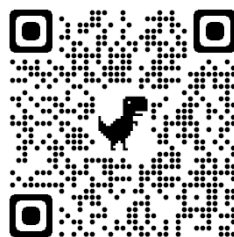
WEIGHTAGE AND TIPS

Please refer to the weightage of this Subject from GATE 2012 to GATE 2023 tabulated below:

GATE YEAR	Number of Questions	WEIGHTAGE (Marks)
2023	4	5
2022	5	6
2021	2	2
2020	5	6
2019	2	3
2018	3	3
2017	1	2
2016	1	1
2015	4	5
2014	0	0
2013	2	2
2012	2	2
Average	2.58	3.08

Students are advised to remember the following points, before you start studying this Book:

- This Subject of “Architectural Design, Graphics, and Standards” comes under Section 1 of Part A: Common – of the Official GATE AR Syllabus
- Some important areas include Colour theory and colour schemes, relation of object and image with respect to picture-plane and observer, orthographic projections, etc.,
- Standards related to CPWD Guidelines for Barrier Free Design and Part 3: Development Controls of National Building Code 2016 – Volume 1 are important areas.
- This book is a single subject structured into 7 Units and the related Past GATE Questions at the end.



Scan the QR Code to watch the video:
Introduction to the Subject of “Architectural Design & Graphics”

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UNIT-01
PRINCIPLES OF DESIGN

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CHAPTER- 01

PRINCIPLES OF DESIGN

- I. Art and Aesthetics
- II. Art and Design
- III. Elements of Design
- IV. Principles of Design
- V. Illustrations

I. ART AND AESTHETICS

Art

Art is a diverse range of human activities involving the creation of visual, auditory or performing artifacts (artworks), which express the creator's imagination, conceptual ideas, or technical skill, intended to be appreciated primarily for their beauty or emotional power.

Classical Branches of Visual Art

- A. Painting
- B. Sculpture
- C. Architecture

Other Branches of Art

Performing Arts:

- Music
- Film
- Theatre
- Dance
- Literature

Interactive Media:

- Literature

Aesthetics:

A set of principles concerned with the nature and appreciation of beauty. ^[1]

The branch of philosophy which deals with questions of beauty and artistic taste.

[1] Oxford Dictionary

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Despite the absurdity, subjectivity and the ever-long struggle between what's beautiful and what's ugly, three approaches to the study of Aesthetics are proposed by Roger Scruton, author of "Aesthetics in Architecture".

1. The approach of Edmund Burke and the study of Aesthetic Concepts

The study of Aesthetic concepts or the analysis of the 'language of criticism' is one where logic is presented and justification is displayed to support one's judgement.

The Approach of Edmund Burke can be best understood through his book, "On the Sublime and Beautiful (1757)",

In the treatise, he attempted to draw a distinction between the two aesthetic concepts.

- i. By the study of qualities that they denote
- ii. For the analysis of separate and different human attitudes and experiences.



Edmund Burke

Edmund Burke, detail of an oil painting from the studio of Sir Joshua Reynolds, 1771; in the National Portrait Gallery, London.

Courtesy of the National Portrait Gallery, London

2. The approach of Immanuel Kant and the State of Mind

This approach studies and analyses the States of Mind.

These may include responses, attitudes, emotions that are involved in an aesthetic experience.

In his book on modern aesthetics *Kritik der Urteilskraft* (1790; The Critique of Judgment), Immanuel Kant located the distinctive features of the aesthetic in the faculty of "judgment" where we take a stance towards an object. Generally, where we separate the objects from our scientific and practical concerns.

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The key to the aesthetic realm lies therefore in a certain “disinterested” attitude, which we may assume toward any object and which can be expressed in many contrasting ways.

Many Modern and Contemporary philosophers have moved away from Kant's theory. They draw a crucial distinction between philosophy of mind and empirical psychology.

Immanuel Kant

Immanuel Kant, print published in London, 1812.

Photos.com/Getty Images



3. The philosophical study

This approach reflects the view that the problems of aesthetics exist primarily because the world contains a special class of objects toward which we react selectively and which we describe in aesthetic terms. The usual class singled out as prime aesthetic objects is that comprising works of art.

Thus Hegel, perhaps the major philosophical influence on modern aesthetics, considered the main task of aesthetics to reside in the study of the various forms of art and of the spiritual content peculiar to each.

The third approach to aesthetics does not require this concentration upon art. ^[2]

[2] – Aesthetics by Thomas Munro

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II. ART AND DESIGN

Before moving towards the Theories and Principles of Design, it is very crucial for students to understand the differences between Art and Design. Our 'very' brief discussion on Aesthetics may help a student to realize the philosophical realm that Art touches.

Art and Design have close meanings, but not totally similar. Their nature and definition are quite different.

Artists- who practice art, have skills, that will be of no use without natural talent.

Designers- who practice the Art of Design, lean more towards learning skills. In short, even without a natural talent, one can become the best of the designers.

Major Differences:

1. The purpose of Art is to bring out something NEW. It seeks to develop a visual and interactive connection between the artist and the observers of their art.
2. Design is however, intended to make the audience realize what already exists. For e.g., Design of an advertisement, or design of a Road Map etc.
3. Art thrives towards Interpretation, whereas Design strives towards Understanding.

The Last Supper
Leonardo da Vinci

People might have different interpretations for the same piece of Art



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4. Design is Goal driven. It needs and intends to solve an existing problem or situation.



Design of A Clover Leaf Interchange

People will have the same understanding of this design irrespective of their personal taste and intention.



This image depicts a comfortable Interior Design.

It is paramount for students to understand why the above image is not of a comfortable Interior 'Art'.

5. Hence, it can be easily concluded that Art is for Artists and Design is for People, you, me and everybody around,

You may have heard of the Persian Carpets or Iran, and the Terracotta figures of Bishnupur, WB. Similarly, the Benaresi sarees of UP attract every new 'bride-to-be' and the Kanchivaram silk sarees are mom's favorites.

Now you wonder why this point is important.

This is to understand that Art can be traditional. Ethnic and Regional. Whereas, Design is a contemporary phenomenon. Design is Need based.

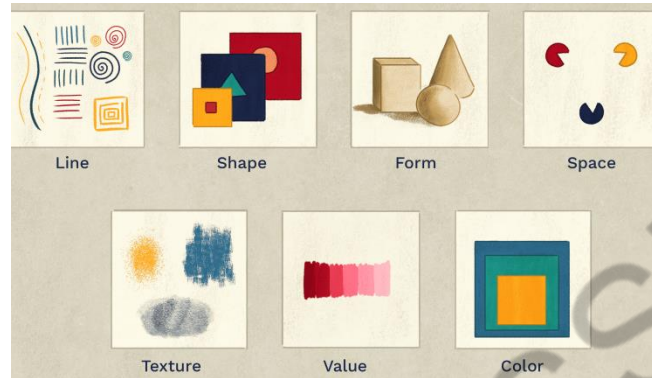
Exercise: Analyze the statement.

"Design reforms are to be introduced in the Art of Zari Making"

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III. ELEMENTS OF DESIGN

Elements of Design are tools to create art and design. They can also be called 'Visual Symbols'.



1. Line

A line is a mark between two points.

Lines can be of various types; straight, bold, curved, spiral, spline* etc.

Line has a wide range of uses. If drawn under a word, it can put emphasis on it. It can strike through something. It can connect content. Multiple lines if put together can create a pattern. The list is ever ending.

Exercise: Try to list down the uses of Line in our day-to-day lives.

2. Shape

Any combination of line segments that has a height and some width, forms a 'shape'. Basic shapes to our knowledge are; Triangle, Square, Rectangle, Circle, Oval, several kinds of Polygon etc.

Odd or less seen shapes can draw attention. Eg: We have all seen the cloud-like shape drawn in AutoCad drawings, where ever a correction is to be marked. There are infinite kinds of shapes possible.

Exercise: Try to define different kinds of shape in your own words. Try to find out about how to calculate area of the same.

3. Form

While shape is a 2-dimensional phenomenon, a form is primarily 3-dimensional. And a third dimension. It has a volume and has a sense of enclosure. Forms are either geometric or free-form.

Some general forms are of: Cone – by addition of a dimension to triangle

Cube

Sphere etc.

The geometric classification of forms can also be called as **Platonic solids**: