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CHENNAI ACADEMY OF ARCHITECTURE AND DESIGN

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PREPARATORY GUIDE

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DESIGN THINKING

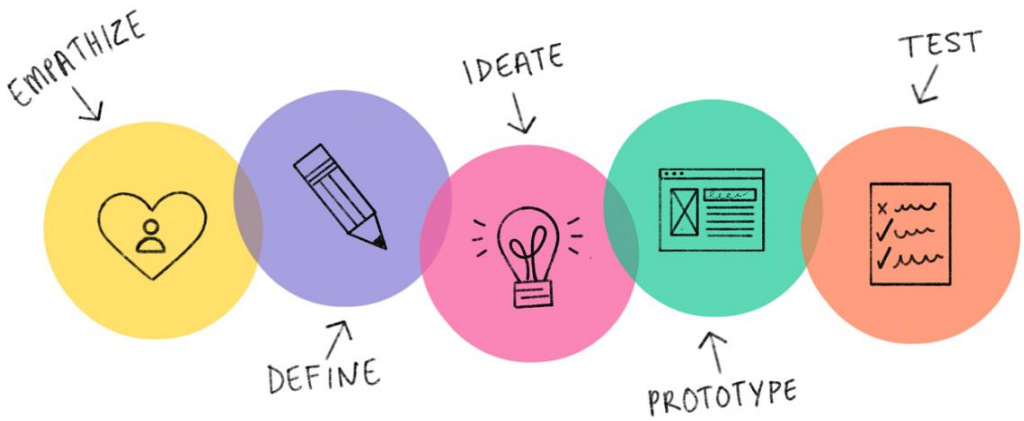
Ability to understand semantics, metaphors, problem identification and definition, analysis of a given situation.

DESIGN THINKING

Title: Comprehensive Guide to Design Thinking and Cognitive Processes for Architecture Entrance Exams

1. Design Thinking and Design Thinking Process:

Design thinking is a human-centered approach to problem-solving that emphasizes understanding users' needs, generating innovative solutions, and prototyping ideas to test their viability. The design thinking process typically consists of five stages:



- Empathize: In this stage, architects seek to understand the needs, motivations, and challenges of users through observation, interviews, and immersion. Empathy helps architects gain insights into users' experiences and perspectives.

- Define: Based on insights gathered during the empathize stage, architects define the problem statement. This involves synthesizing user needs and reframing the problem to ensure clarity and focus for the design process.

- **Ideate**: Ideation involves generating a wide range of creative ideas and solutions to address the defined problem. Architects use brainstorming sessions, mind mapping, and other creative thinking techniques to explore possibilities without judgment.

- **Prototype**: Prototyping is the process of creating tangible representations of design ideas to visualize and test concepts. Prototypes can range from sketches and models to digital simulations, allowing architects to quickly iterate and refine their solutions.

- Test: Testing involves gathering feedback from users and stakeholders by testing prototypes to evaluate their effectiveness. Architects use this feedback to refine their designs, make improvements, and iterate on solutions until they meet user needs and expectations.

2. Tools for Design Thinking:

Various tools and techniques are employed in design thinking to facilitate the problem-solving process and foster creativity. Some common tools for design thinking include:

- Brainstorming: A group technique for generating a large number of ideas in a short period, often without criticism or judgment.
- Mind Mapping: A visual tool for organizing and connecting ideas, concepts, and relationships in a nonlinear format.
- **Prototyping**: Creating low-fidelity or high-fidelity representations of design ideas to visualize and test concepts.
- **User Personas**: Detailed profiles that represent different user types or demographics, helping architects understand user needs and preferences.
- Journey Mapping: Visualizing the user experience from start to finish, identifying pain points, and opportunities for improvement.

These tools help architects generate and refine ideas, collaborate with stakeholders, and iterate on designs throughout the design thinking process.

3. Divergent and Convergent Thinking:

Divergent thinking involves exploring multiple ideas and possibilities, encouraging creativity, and generating a wide range of solutions. Architects use divergent thinking to brainstorm, explore different perspectives, and push the boundaries of conventional thinking.

Convergent thinking, on the other hand, focuses on narrowing down options to identify the best solution based on specific criteria such as feasibility, desirability, and viability. Architects use convergent thinking to evaluate and prioritize ideas, make informed decisions, and move forward with the most promising solutions.

Both divergent and convergent thinking are essential in the design thinking process, allowing architects to generate innovative ideas, explore possibilities, and make informed decisions that meet user needs and project objectives.

4. Lateral Thinking:

Lateral thinking is a problem-solving approach that involves thinking outside the box and exploring unconventional solutions. Developed by **Edward de Bono,** lateral thinking encourages architects to approach problems from different angles, challenge assumptions, and break free from traditional thought patterns. Architects use lateral thinking to overcome design constraints, explore new possibilities, and push the boundaries of conventional design.