

	INDIAN SCHOOL AL WADI AL KABIR		
Class: X	Department: SCIENCE 2026 – 27 SUBJECT: DESIGN THINKING & INNOVATION	Date of submission: 16.08.2026	
Worksheet No: PART B – 3 with answers	UNIT 3: PART B – INTRODUCTION TO CREATIVITY	Note: A4 FILE FORMAT	
NAME OF THE STUDENT	CLASS & SEC: X -A TO X-I	ROLL NO.	

MULTIPLE CHOICE QUESTIONS

1. Creativity is best defined as:

- a) The ability to memorize things
- b) The ability to think and create new ideas
- c) The ability to solve problems only
- d) The ability to follow instructions

2. Which of the following is NOT a characteristic of creativity?

- a) Originality
- b) Flexibility
- c) Repetition
- d) Imagination

3. Which of the following can enhance creativity?

- a) Taking risks
- b) Ignoring feedback
- c) Avoiding challenges
- d) Relying on old solutions

4. What does the term “divergent thinking” refer to?

- a) Generating a single solution to a problem
- b) Generating many possible solutions to a problem
- c) Focusing on the most common solution
- d) Choosing the easiest solution

5. What is a major barrier to creativity?

- a) Encouragement
- b) Fear of failure
- c) Open-mindedness
- d) Curiosity

6. The ability to see things from different perspectives and think in new ways is known as:

- a) Convergent thinking
- b) Lateral thinking
- c) Logical thinking
- d) Linear thinking

7. Which of the following is an example of a creative process?

- a) Repeating tasks in the same way every day
- b) Experimenting with different approaches to find the best solution
- c) Following a step-by-step guide without changes
- d) Relying only on traditional methods to solve problems

8. What is the first step in the creative process?

- a) Brainstorming ideas
- b) Identifying the problem or challenge
- c) Analyzing potential solutions
- d) Implementing the solution

9. In creativity, “thinking outside the box” means:

- a) Sticking to conventional methods
- b) Creating original and unconventional solutions
- c) Repeating solutions from others
- d) Using only available resources

10. Which of the following is a way to nurture creativity?

- a) Staying in a comfort zone
- b) Embracing failure as part of the learning process
- c) Avoiding change
- d) Ignoring new experiences

11. Which SCAMPER technique encourages replacing one material or component with another to improve a product?

- a) Adapt
- b) Substitute
- c) Eliminate
- d) Reverse

12. A student redesigns a school bag by combining a raincoat into it so that students stay dry during rainy days. Which SCAMPER technique is being used?

- a) Modify
- b) Put to another use
- c) Combine
- d) Reverse

13. Which of the following best demonstrates the **Eliminate** step of SCAMPER?

- a) Adding a solar charger to a backpack.
- b) Removing unnecessary plastic packaging from a product.
- c) Using a bottle as a flower vase.
- d) Changing the shape of a chair.

14. Which combination of design elements is most effective for creating a welcoming and positive environment?

- a) Dark colours with crisscrossing lines
- b) Bright, warm colours with horizontal lines
- c) Congested spaces with dull colours
- d) Random shapes with dark backgrounds

15. A large waiting lounge has very few objects and a lot of space. According to design principles, visitors may feel:

- a) Happy and energetic
- b) Lost or lonely

- c) Calm and excited
- d) Curious and surprised

DESCRIPTIVE TYPE QUESTIONS

1. Explain the different methods of creativity.
2. What are the different types of creativity? Explain each type in detail.
3. What is creative doodling?
4. Define creativity and explain its importance in problem-solving.
5. How can creative thinking be nurtured in individuals?

ANSWERS – MULTIPLE CHOICE QUESTIONS

Q.NO	ANSWERS
1.	b) The ability to think and create new ideas
2.	c) Repetition
3.	a) Taking risks
4.	b) Generating many possible solutions to a problem
5.	b) Fear of failure
6.	b) Lateral thinking
7.	b) Experimenting with different approaches to find the best solution
8.	b) Identifying the problem or challenge
9.	b) Creating original and unconventional solutions
10.	b) Embracing failure as part of the learning process
11.	b) Substitute
12.	c) Combine
13.	b) Removing unnecessary plastic packaging from a product.
14.	b) Bright, warm colours with horizontal lines
15.	b) Lost or lonely

ANSWERS – DESCRIPTIVE TYPE QUESTIONS

1. A. Lateral thinking is a manner of solving problems using an indirect and creative approach via reasoning that is not immediately obvious.

B. Divergent thinking is a thought process or method used to generate creative ideas by exploring many possible solutions.

C. Analogical thinking is a process of finding a solution to a problem by finding a similar problem with a known solution and applying that solution to the current situation.

2. Types of creativity: This is one of the ways in which creativity can be classified. The activities are designed to accommodate all four types of creativity.

A. Deliberate cognitive creativity is when we are focused and are consciously aware of the process based on our prior knowledge like the inventions of Edison.

B. Deliberate emotional creativity is consciously influenced by our emotions.

C. Spontaneous cognitive creativity is an unconscious and unpredictable process, but still requires prior knowledge like Archimedes and Newton's discovery.

D. Spontaneous emotional creativity is what usually occurs in artists and musicians.

3. Creative doodling is the act of drawing or sketching freely without a specific goal or structure, often while thinking, relaxing, or brainstorming. It allows the mind to wander and can help stimulate creativity, improve focus, and spark new ideas. Creative doodling is often spontaneous and can be abstract or simple shapes, patterns, or even random imagery that emerge naturally during a creative process.

4. **Creativity** is the ability to generate new, original ideas, solutions, or approaches by thinking outside the box. It involves combining existing knowledge, experiences, and concepts in novel ways to create something unique. Creativity is not limited to artistic expression; it can apply to any field, including business, science, technology, and everyday life.

Importance of Creativity in Problem-Solving:

1. **Innovation:** Creativity allows individuals to think beyond conventional solutions, leading to innovative ways of addressing challenges.
2. **Adaptability:** Creative thinkers can approach problems from different angles, making it easier to adapt to new situations or unexpected obstacles.
3. **Finding Unique Solutions:** Creativity enables people to come up with solutions that may not be immediately obvious, offering a fresh perspective that others might not have considered.
4. **Overcoming Limitations:** When faced with constraints, creativity helps in finding workarounds or alternatives that make the most of available resources.
5. **Critical Thinking:** Creativity encourages people to think critically, question assumptions, and explore multiple possibilities before settling on the most effective solution.

5. Creative thinking can be nurtured in individuals through a variety of strategies that encourage exploration, openness, and the development of new perspectives. Here are some ways to nurture creativity:

- **Encourage Curiosity:** Fostering a sense of curiosity about the world and encouraging individuals to ask questions and explore different subjects can expand their thinking. Encouraging learning through new experiences, books, or different fields of interest opens up fresh ideas.

- **Create a Supportive Environment:** A safe, non-judgmental environment where ideas are welcomed, and failure is seen as a learning opportunity helps individuals feel

comfortable thinking creatively. Praise effort, innovation, and risk-taking rather than focusing only on outcomes.

□ **Provide Time for Exploration:** Creative thinking often requires time to brainstorm and explore different ideas. Allowing individuals to step away from rigid schedules and giving them the time and freedom to think deeply and experiment with concepts is essential.

□ **Practice Divergent Thinking:** Encourage exercises that push individuals to generate multiple solutions to a problem rather than just one. Activities like brainstorming, mind mapping, or using prompts to explore unusual possibilities can stimulate creative thought.

□ **Expose to Diverse Perspectives:** Encouraging collaboration with others from different backgrounds, cultures, or fields can introduce new ideas and stimulate thinking from multiple angles. Exposure to a variety of perspectives enhances the ability to see problems and solutions creatively.

□ **Challenge Assumptions:** Help individuals identify and challenge their assumptions and conventional ways of thinking. When people question norms or explore alternatives to standard practices, they open themselves up to more creative solutions.

□ **Encourage Play and Exploration:** Playful activities like drawing, writing, or experimenting with new technologies can unlock creativity. When individuals engage in activities without the pressure of achieving a specific goal, their minds are free to wander and make new connections.

□ **Allow for Downtime and Rest:** Creative ideas often emerge when individuals are relaxed and not focused on actively solving a problem. Encouraging downtime, meditation, or activities that let the mind rest can lead to moments of insight and inspiration.

□ **Promote Risk-Taking:** Encourage individuals to step outside of their comfort zones and take risks. Creative thinking often requires trying new things, failing, and learning from mistakes. A culture that celebrates experimentation helps cultivate a creative mindset.

□ **Provide Inspiration:** Exposure to art, nature, innovation, and new ideas can spark creativity. Whether through books, music, nature walks, or innovative projects, inspiration can help trigger fresh thinking and idea generation.

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