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|  | <b>INDIAN SCHOOL AL WADI AL KABIR</b>                                                    |                                  |  |
| <b>Class: X</b>                                                                   | <b>Department: SCIENCE 2026 – 27</b><br><b>SUBJECT: DESIGN THINKING &amp; INNOVATION</b> |                                  | <b>Date of submission:</b><br><b>03.09.2026</b>                                     |
| <b>Worksheet No:</b><br><b>PART B – 4 with</b><br><b>answers</b>                  | <b>UNIT 4: PART B – DESIGN PROJECT: WITH</b><br><b>FOCUS ON CREATIVE EXPLORATIONS</b>    |                                  | <b>Note:</b><br><b>A4 FILE FORMAT</b>                                               |
| <b>NAME OF THE STUDENT</b>                                                        |                                                                                          | <b>CLASS &amp; SEC: X A TO I</b> | <b>ROLL NO.</b>                                                                     |

### **MULTIPLE CHOICE QUESTIONS**

**1. What is the primary purpose of the ideation stage in a design project?**

- A. To finalize the prototype
- B. To evaluate market demand
- C. To generate as many ideas as possible
- D. To test the product with users

☒ **Answer: C. To generate as many ideas as possible**

**2. Which of the following is a method used for idea generation?**

- A. SWOT Analysis
- B. Brainstorming
- C. Prototyping
- D. Market Survey

☒ **Answer: B. Brainstorming**

**3. "Thinking outside the box" is often associated with:**

- A. Logical thinking
- B. Analytical thinking
- C. Creative thinking
- D. Procedural thinking

☒ **Answer: C. Creative thinking**

**4. SCAMPER is a tool used in ideation. What does the “E” in SCAMPER stand for?**

- A. Examine
- B. Eliminate
- C. Explore
- D. Evaluate

☒ **Answer: B. Eliminate**

**5. Which of the following best describes divergent thinking?**

- A. Focusing on a single solution
- B. Generating multiple solutions to a problem
- C. Choosing the best solution
- D. Rejecting all new ideas

☒ **Answer: B. Generating multiple solutions to a problem**

**6. During the ideation phase, which quality is most important in a team?**

- A. Strict adherence to rules
- B. Avoiding disagreements
- C. Openness to all ideas
- D. Following instructions from one leader

☒ **Answer: C. Openness to all ideas**

**7. What is the main objective of using mind maps in the ideation process?**

- A. To structure detailed project reports
- B. To generate and connect ideas visually
- C. To assess the budget
- D. To finalize the design

☒ **Answer: B. To generate and connect ideas visually**

**8. Which stage typically follows ideation in a design thinking process?**

- A. Empathize
- B. Prototype
- C. Define
- D. Research

☒ **Answer: B. Prototype**

**9. In creative thinking, the term "incubation" refers to:**

- A. Immediately sharing ideas
- B. Ignoring the problem
- C. Taking a break to let ideas develop
- D. Finalizing the best idea quickly

✓ **Answer: C. Taking a break to let ideas develop**

**10. Which of these is not a characteristic of a creative idea?**

- A. Originality
- B. Practicality
- C. Predictability
- D. Usefulness

✓ **Answer: C. Predictability**

### **DESCRIPTIVE TYPE QUESTIONS**

**Q1. What is ideation and why is it important in the design thinking process?**

**Answer:**

Ideation is the process of generating a wide range of ideas and possible solutions to a problem. It is important because it encourages creativity and helps in discovering innovative, out-of-the-box solutions that might not be obvious at first.

**Q2. Name any two techniques used for idea generation and briefly explain them.**

**Answer:**

1. **Brainstorming** – A group activity where participants share as many ideas as possible without judgment to encourage creativity.
2. **Mind Mapping** – A visual technique where ideas are connected around a central concept, helping to explore related thoughts and spark new ideas.

**Q3. What does SCAMPER stand for in the ideation process?**

**Answer:**

SCAMPER stands for:

- Substitute
- Combine

- Adapt
- Modify
- Put to another use
- Eliminate
- Rearrange

It is a creative thinking tool used to modify existing ideas or generate new ones.

**Q4. Explain the difference between divergent and convergent thinking in ideation.**

**Answer:**

**Divergent thinking** involves generating multiple ideas and exploring many possible solutions, while **convergent thinking** focuses on analyzing those ideas to select the most effective or feasible one.

**Q5. Why is creativity essential in the ideation stage of a design project?**

**Answer:**

Creativity is essential because it helps in developing unique, original, and effective solutions to problems. It allows designers to look beyond obvious answers and find innovative ways to meet user needs.

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| <b>Prepared by:</b><br><b>Ms. Aiswarya Deepthi.P</b> | <b>Checked by:</b><br><b>AVP – Science &amp; French</b> |
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