

CBSE | DEPARTMENT OF SKILL EDUCATION

DESIGN THINKING & INNOVATION (SUBJECT CODE - 422)

Blue-print for Sample Question Paper for Class X (Session 2023-2024)

Max. Time: 2 Hours

Max. Marks: 50

PART A - EMPLOYABILITY SKILLS (10 MARKS):

UNIT NO.	NAME OF THE UNIT	OBJECTIVE TYPE QUESTIONS	SHORT ANSWER TYPE QUESTIONS	TOTAL QUESTIONS
		1 MARK EACH	2 MARKS EACH	
1	Communication Skills - II	1	1	2
2	Self-Management Skills - II	2	1	3
3	ICT Skills – II	1	1	2
4	Entrepreneurial Skills - II	1	1	2
5	Green Skills – II	1	1	2
TOTAL QUESTIONS		6	5	11
NO. OF QUESTIONS TO BE ANSWERED		Any 4	Any 3	07
TOTAL MARKS		1 x 4 = 4	2 x 3 = 6	10 MARKS

PART B - SUBJECT SPECIFIC SKILLS (40 MARKS):

UNIT NO.	NAME OF THE UNIT	OBJECTIVE TYPE QUESTIONS	SHORT ANSWER TYPE QUESTIONS	DESCRIPTIVE/ LONG ANS. TYPE QUESTIONS	TOTAL QUESTIONS
		1 MARK EACH	2 MARKS EACH	4 MARKS EACH	
1	Fundamentals of Communication Skills	4	1	1	6
2	Fundamentals of Story Creation	4	1	1	6
3	Introduction to Creativity	4	1	1	6
4	Fundamentals of Animation	4	1	1	6
5	Fundamentals of Sustainability and Design	4	1	1	6
6	Introduction to Prototyping methods	4	1	1	6
TOTAL QUESTIONS		24	6	6	36
NO. OF QUESTIONS TO BE ANSWERED		20	Any 4	Any 3	27
TOTAL MARKS		1 x 20 = 20	2 x 4 = 8	4 x 3 = 12	40 MARKS

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Sample Question Paper for Class X (Session 2023-2024)

Max. Time: 2 Hours

Max. Marks: 50

General Instructions:

1. Please read the instructions carefully.
2. This Question Paper consists of **22 questions** in two sections: Section A & Section B.
3. Section A has Objective type questions whereas Section B contains Subjective type questions.
4. **Out of the given (5 + 17 =) 22 questions, a candidate has to answer (5 + 10 =) 15 questions in the allotted (maximum) time of 2 hours.**
5. All questions of a particular section must be attempted in the correct order.
6. **SECTION A - OBJECTIVE TYPE QUESTIONS (24 MARKS):**
 - i. This section has 05 questions.
 - ii. Marks allotted are mentioned against each question/part.
 - iii. There is no negative marking.
 - iv. Do as per the instructions given.
7. **SECTION B – SUBJECTIVE TYPE QUESTIONS (26 MARKS):**
 - i. This section has 17 questions.
 - ii. A candidate has to do 10 questions.
 - iii. Do as per the instructions given.
 - iv. Marks allotted are mentioned against each question/part.

SECTION A: OBJECTIVE TYPE QUESTIONS

Q. 1	Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)	
i.	<p><i>"M D Gulati started with a small shop with his focus, dedication and clear ideas, MDH became one of the most popular brands in India besides having a good reputation all over the world"</i> .</p> <p>Which self-management skill is clearly visible in the given statement?</p>	1
ii.	<p>When you bring the mouse over a file in File Explorer, it will show the details of that file. This is known as</p> <p>(a) Drag and drop (b) Double click (c) Hover (d) Single click</p>	1
iii.	<p>Assertion(A): A doctor works for a renowned hospital. Reason(R): The statement given above is an example of wage employment.</p> <p>(a) Both A and R are correct and R is the correct explanation of A (b) Both A and R are correct but R is NOT the correct explanation of A (c) A is correct but R is not correct (d) A is not correct but R is correct</p>	1
iv.	<p>_____ the work is all about identifying and noting how we spent our time, and analysing how to spend our time effectively.</p> <p>(a) Organising (b) Prioritising (c) Controlling (d) Tracking</p>	1
v.	<p>Remya traveled to Sweden from India to pursue her higher education. But she doesn't know how to speak Swedish (language of Sweden). Because of this, she was unable to find a part time job. This is an example of _____</p> <p>(a) Interpersonal barrier (b) Physical barrier (c) Organisational barrier (d) Linguistic barrier</p>	1
vi.	<p>"Efforts are made to increase the solar power generation so that our electricity needs are met and at the same time we do not pollute the environment or use up natural resources".</p> <p>Which SDG can you relate this statement to?</p> <p>(a) Life on land (b) Clean water and sanitation (c) Affordable and clean energy (d) Reduced inequalities</p>	1


Q. 2	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	<p>In the narrative structure of a story, the middle part</p> <p>a) reveals the story goal. b) sets general expectations from the story. c) ties up loose ends in the story. d) ends in a high crisis.</p>	1

ii.	<p>Stop motion animation does not use</p> <ol style="list-style-type: none"> puppets live actors drawings cut outs 	1
iii.	<p>Read the following statements and choose the correct option.</p> <ol style="list-style-type: none"> Emoji is a visual form of communication Sign language is a visual form of communication Traffic signs are a visual form of communication Theatre is a verbal, visual and gestural form of communication <p>(a) Options I, II and III are correct while IV is incorrect (b) Options II and IV are correct while I and III are incorrect (c) Options I, III and IV are correct while II is incorrect (d) All the options are correct</p>	1
iv.	<div data-bbox="485 824 1142 1193" data-label="Image"> </div> <p>The above image was released by Google on Earth Day 22nd April 2023. This form of creativity refers to:</p> <ol style="list-style-type: none"> Spontaneous emotional creativity Creative redesign Creative doodling All of the above 	1
v.	<p>Testing and gathering feedback from users is a crucial step in which stage of Design Thinking?</p> <ol style="list-style-type: none"> Define Ideate Understand Prototype 	1
vi.	<p>What brought about changes to ways in which food was produced, marketed and consumed across ages?</p> <ol style="list-style-type: none"> Indus Valley Civilisation Industrialisation in India Gupta period Hunting practices by early humans 	1

Q. 3	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	In Design Thinking, a prototype is: a) The final product b) A preliminary version of the product or solution c) A list of user requirements d) The marketing plan	1
ii.	The animation principle of squash and stretch help in a) flexibility and adding more life and energy in the motion. b) establishing a character's nature, and personality. c) mood and emotion in the animation. d) making the action slower/faster.	1
iii.	The Lion and the Mouse story is the story of a mouse who's showed mercy by a lion and the mouse returns this same kindness. The narrative structure of this story is: a) Chronological b) Fractured c) Parallel d) Chronological and Circular	1
iv.	What is the primary focus of the 'Prototype' stage in Design Thinking? a) Identifying user needs b) Testing and refining ideas c) Generating as many ideas as possible d) Defining the problem statement	1
v.	Cereals and spices were mainly eaten in a) Time Period 1 b) Time Period 2 c) Time Period 3 d) Time Period 4	1
vi.	The word Prototype originates from the Greek word <i>prototipos</i> , which means a) latest model b) first original model c) last original model d) last model	1

Q. 4	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Pixilation involves use of a) paper, Cloth and other 2D Materials b) animating text, drawings, graphics and photos c) clay and plasticine d) live actors	1

<p>ii.</p>	<p>A circular lifecycle is based on the principle of 'taking from nature and then giving back to it'. Which of the following examples of following a circular lifecycle?</p> <ul style="list-style-type: none"> i) making compost out of household kitchen waste ii) making disposable plates out of leaves iii) using bamboo toothbrushes iv) using food wrapping paper instead of aluminium foil <ul style="list-style-type: none"> a) only i and ii b) only ii, iv c) only i, ii, iii d) only iii and iv 	<p>1</p>
<p>iii.</p>	<p>The rule of third in photography is a composition guide line which says that:</p> <ul style="list-style-type: none"> a) place your subject in the left or right third of an image, leaving the other two thirds more open. b) place your subject in the left or right two third of an image, leaving the other one thirds more open. c) place your subject in the left of an image, leaving one third more open. d) place your subject in the right of an image, leaving the other two thirds more open. 	<p>1</p>
<p>iv.</p>	<p>Ratna Pickles, famous for its mango and lemon pickles, based in Gujarat, is now selling pickled avocado to its local customers in the state. Currently, the avocado is sourced from Mexico and needs constant refrigeration while transporting from one state to the other. This leads to customer complaints due to high pricing and lower shelf life. What could Ratna pickles do to reduce pricing?</p> <ul style="list-style-type: none"> a) Reduce manpower at the processing stage by investing in technology b) Start growing avocado locally in Gujarat to bring down transportation cost and provide livelihood locally c) Outsource the manufacturing to a third-party manufacturer d) Improving packaging to low-cost durable packaging to reduce cost 	<p>1</p>
<p>v.</p>	<p>Which of the following is not a part of creative thinking?</p> <ul style="list-style-type: none"> a) Iterating b) Critiquing each other c) Changing perspectives d) Fixation of ideas 	<p>1</p>

vi.	<p>The following question contains an Assertion followed by a Reason. Read them carefully and select the option that best describes the two statements:</p> <p>ASSERTION: Drinking tea etc. in ‘kulhad’(clay cups) has multiple benefits.</p> <p>REASONING: This act follows the linear lifecycle model.</p>  <p>(picture credit- NDTV food)</p> <p>a) Both assertion and reason are correct and the reason is the correct explanation of the assertion.</p> <p>b) Both assertion and reason are correct but the reason is not the correct explanation of the assertion.</p> <p>c) Assertion is correct but the reason is not correct.</p> <p>d) Assertion is incorrect but the reason is correct.</p>	1
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Q. 5	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	<p>Read the following statements and choose the correct option.</p> <p>I. Slum-dog Millionaire is an example of parallel narrative</p> <p>II. The protagonist in the movie is the leading character Jamal Malik</p> <p>III. The Antagonist in a story is the character who can be called a villain</p> <p>IV. The confidant in the movie is Latika.</p> <p>a) All the options are correct</p> <p>b) Options II, III and IV are correct while I is incorrect</p> <p>c) Options II and III are correct while I and IV are incorrect</p> <p>d) Options I, II and III are correct while IV is incorrect</p>	1
ii.	<p>Plastic food packaging which is eventually discarded as waste, is an example of</p> <p>a) circular lifecycle</p> <p>b) multi-dimensional lifecycle</p> <p>c) linear lifecycle</p> <p>d) uni-dimensional lifecycle</p>	1
iii.	<p>Which one of the following is NOT a way of gestural communication?</p> <p>a) body language</p> <p>b) verbal</p> <p>c) dancing</p> <p>d) posture</p>	1

iv.	Alice in Wonderland is an example of _____ story narrative structure. a) chronological b) fractured c) circular d) parallel	1
v.	Innovation occurs in a spontaneous, free-flowing manner while exploring many possibilities is referred to as: a) Lateral Thinking b) Design Thinking c) Divergent Thinking d) Analogical Thinking	1
vi.	The discovery of gravity by the phenomenon of an apple falling from a tree was based on which type of creativity: a) Deliberate cognitive creativity b) Deliberate emotional creativity c) Spontaneous cognitive creativity d) Spontaneous emotional creativity	1

SECTION B: SUBJECTIVE TYPE QUESTIONS

Answer any 3 out of the given 5 questions on Employability Skills (2 x 3 = 6 marks)

Answer each question in 20 – 30 words.

Q. 6	List two best practices for effective communication.	2
Q. 7	What is the importance of setting goals in life?	2
Q. 8	<i>“The Trojan Horse was a wooden horse said to have been used by the Greeks during the Trojan War to enter the city of Troy and win the war”.</i> What does Trojan horse mean in computer terminology?	2
Q. 9	How is society helping entrepreneurs in their business?	2
Q. 10	Mention any two human activities that lead to environmental degradation.	2

Answer any 4 out of the given 6 questions in 20 – 30 words each (2 x 4 = 8 marks)

Q. 11	Define Low-Fidelity Prototyping Techniques and name any 2 such techniques.	2
Q. 12	What does ‘sustainability’ mean to us? Answer with respect to any 2 strategies of sustainability you use in your daily life.	2
Q. 13	Rita went to see a puppet show. Identify and briefly explain the type of animation medium it represents.	2
Q. 14	Explain with suitable examples any 2 qualities that a story creator must possess to create effective stories.	2
Q. 15	Nature has its own way of displaying emotions relatable to human nature. Give 2 examples of such analogies.	2
Q. 16	Why is it important to rehearse before a verbal or gestural presentation?	2

Answer any 3 out of the given 6 questions in 50– 80 words each (4 x 3 = 12 marks)

<p>Q. 17</p>	<p>CASE STUDY</p> <p>Single-use plastic, such as disposable plastic bags, straws, and cutlery, is a significant contributor to plastic pollution in Japan. These items are used for a short period of time and then discarded, often ending up in the ocean where they harm marine life and disrupt the ecosystem.</p> <p>Explore how design thinking can be used to address the issue of single-use plastic in Japan.</p>	<p>4</p>
<p>Q. 18</p>	<p>Why is character design a key element in an animated film? Imagining an alien character standing by the door of your examination hall/room, mention any three important features as required in character design.</p>	<p>4</p>
<p>Q. 19</p>	<p>CASE STUDY</p> <p>For people with limb loss, prosthetic devices improve quality of life by providing movement and independence. Early prosthetics were uncomfortable to wear, but they may have helped people return to work and feel accepted in their daily lives.</p> <p>A prosthesis is a device designed to replace a missing part of the body or to make a part of the body work better and to help people regain mobility.</p> <p>Most prosthetic manufacturing companies use crude oils that are expensive and not environmentally friendly. The use of natural materials is a more efficient alternative in creating prosthetics today.</p> <p>Bio-based polymers are derived from bio mass and are said to be environment-friendly as compared to a petro-based one. PHA is considered a bio-based polymer because it is derived entirely from living microorganisms and is 100% biodegradable. In fact, it is the only bio-based polymer that can make such a claim; most if not all other marketed bioplastics are either not entirely made by living organisms, or are only partially biodegradable.</p> <div data-bbox="306 1326 1321 1944" data-label="Diagram"> <p>The infographic illustrates the process of creating bio-based plastics. It starts with three types of feedstocks: agro-based (corn/sugar cane), ligno-cellulosic (non-food plants), and organic waste. These feedstocks are processed in a biorefinery, which then produces a variety of plastic products including a t-shirt, a smartphone, a bottle, a bag, and a razor. The text emphasizes that these plastics are made from renewable resources.</p> </div> <p>Apply design thinking to find creative ways to use these bio-based plastics to make the prosthetics environment-friendly.</p>	<p>4</p>

<p>Q. 20</p>	<p>Effective communication between patients and healthcare providers is crucial for the patient care and recovery.</p> <p>As per a survey, 70% of people have had unpleasant experiences while dealing with hospital staff during their lifetime. Poor communication and lack of empathy can make it even harder for a patient and their caregiver.</p> <p>Ideate and come out with an innovative solution of this problem which will enable better hospital-patient communication which is patient centric.</p>	<p>4</p>
<p>Q. 21</p>	<p>The story 'The Thirsty Crow' follows the chronological structure of storytelling. Using any other fable/story of your choice, modify it to a parallel structured story in 80-100 words of your own.</p>	<p>4</p>
<p>Q. 22</p>	<p><u>CASE STUDY</u></p> <p>According to the survey conducted by LocalCircles—a community social media platform, more than 40% of urban Indian parents admit that their children aged between 9 to 17 are addicted to videos, gaming and social media. (Source: https://www.bqprime.com/nation/a-survey-reveals-how-bad-is-internet-addiction-among-indian-children). This has led to limited physical activity, mental health issues and poor sleep quality. While parents are aware and worried about this issue, they are unable to curb or change the children's behavioral pattern towards a positive direction.</p> <p>The objective is to create a product which will not only reduce screen time for children but will make parent-child interaction as enriching and entertaining as possible.</p> <p>Create a prototype by applying design thinking to devise a product which facilitates fulfilling parent-child interaction without dependence on any gadget or screen time. The product could be most suitable for metropolitan cities of India, catering to families from diverse social, economic and cultural backgrounds.</p>	<p>4</p>