

**Marking Scheme**  
**Strictly Confidential**  
**(For Internal and Restricted use only)**  
**Senior Secondary School Examination, 2026 (XII<sup>th</sup>)**  
**SUBJECT NAME : DESIGN THINKING & INNOVATION (Q.P. CODE : 372)**

**General Instructions: -**

<b>1</b>	The CBSE has decided to introduce On Screen Marking (OSM) for the evaluation of Class XII answer Book with the 2026 Examination.
<b>2</b>	You are aware that evaluation is the most important process in the actual and correct assessment of the candidates. A small mistake in evaluation may lead to serious problems which may affect the future of the candidates, education system and teaching profession. To avoid mistakes, it is requested that before starting evaluation, you must read and understand the spot evaluation guidelines carefully.
<b>3</b>	<b>“Evaluation policy is a confidential policy as it is related to the confidentiality of the examinations conducted, evaluation done and several other aspects. Its leakage to public in any manner could lead to derailment of the examination system and affect the life and future of millions of candidates. Sharing this policy/document to anyone, publishing in any magazine and printing in Newspaper/Website, etc. may invite action under various rules of the Board and IPC.”</b>
<b>4</b>	Evaluation is to be done as per instructions provided in the Marking Scheme. It should not be done according to one’s own interpretation or any other consideration. Marking Scheme should be strictly adhered to and religiously followed. <b>However, while evaluating, answers which are based on latest information or knowledge and/or are innovative, they may be assessed for their correctness otherwise and due marks be awarded to them. In Class-XII, while evaluating two competency-based questions, please try to understand given answer and even if reply is not from marking scheme but correct competency is enumerated by the candidate, due marks should be awarded.</b>
<b>5</b>	The Marking scheme carries only suggested value points for the answers. These are in the nature of Guidelines only and do not constitute the complete answer. The students can have their own expression and if the expression is correct, the due marks should be awarded accordingly.
<b>6</b>	The Head-Examiner must go through the first five answer books evaluated by each evaluator on the first day, to ensure that evaluation has been carried out as per the instructions given in the Marking Scheme. If there is any variation, the same should be zero after deliberation and discussion. The remaining answer books meant for evaluation shall be given only after ensuring that there is no significant variation in the marking of individual evaluators.
<b>7</b>	Evaluators will mark ( ✓ ) wherever answer is correct. For wrong answer CROSS ‘X’ be marked. Evaluators will not put right (✓) while evaluating which gives an impression that answer is correct and no marks are awarded. <b>This is most common mistake which evaluators are committing.</b>
<b>8</b>	If a question has parts, please award marks on the right-hand side for each part in the OSM Portal. Marks awarded for different parts of the question will be totaled up by the OSM System.
<b>9</b>	If a question does not have any parts, marks must be awarded in the left-hand margin in the OSM Portal. This may also be followed strictly.

<b>10</b>	If a student has attempted an extra question, answer of the question deserving more marks should be retained and the other answer scored out with a note <b>“Extra Question”</b> .
<b>11</b>	No marks to be deducted for the cumulative effect of an error. It should be penalized only once.
<b>12</b>	A full scale of marks _____ (example 0 to 80/70/60/50/40/30 marks as given in Question Paper) has to be used. Please do not hesitate to award full marks if the answer deserves it.
<b>13</b>	Every examiner has to necessarily do evaluation work for full working hours i.e., 8 hours every day and evaluate 20 answer books per day in main subjects and 25 answer books per day in other subjects (Details are given in Spot Guidelines). This is in view of the reduced syllabus and number of questions in question paper.
<b>14</b>	<p>Ensure that you do not make the following common types of errors committed by the Examiner in the past :-</p> <ul style="list-style-type: none"> <li>• Answers marked as correct, but marks not awarded. (Ensure that the right tick mark is correctly and clearly indicated. It should merely be a line. Same is with the X for incorrect answer.)</li> <li>• Half or a part of answer marked correct and the rest as wrong, but no marks awarded.</li> </ul>
<b>15</b>	While evaluating the answer books if the answer is found to be totally incorrect, it should be marked as cross (X) and awarded zero (0) Marks.
<b>16</b>	The Examiners should acquaint themselves with the guidelines given in the <b>“Guidelines for Spot Evaluation”</b> before starting the actual evaluation.
<b>17</b>	The candidates are entitled to obtain photocopy of the Answer Book on request on payment of the prescribed processing fee. All Examiners/Additional Head Examiners/Head Examiners are once again reminded that they must ensure that evaluation is carried out strictly as per value points for each answer as given in the Marking Scheme.

**MARKING SCHEME**  
**DESIGN THINKING & INNOVATION (Subject Code-848)**  
**(PAPER CODE : 372) (P3720848)**

**Max. Time : 3 Hours**

**Max. Marks : 60**

Q.No.	EXPECTED OUTCOMES/VALUE POINTS	Marks
	<b>SECTION – A</b> <b>OBJECTIVE TYPE QUESTIONS (24 marks)</b>	
	<b>Answer any 4 questions out of given 6 questions.</b> <b>(1 × 4 = 4 marks)</b>	
<b>1.</b>	(i) Football (Unit-1, Page No. : 17) (ii) (B) Paranoid Personality disorder. (Unit-2, Page No. : 35) (iii) Stress is a state of feeling upset, annoyed and hopeless. It also refers to a time period where one feels nothing is working right. (Unit-2, Page No. : 26) (iv) (D) Range of cells (Unit-3, Page No. : 46) (v) (A) Vision (Unit-4, Page No. : 79) (vi) UNEP – United Nations Environment program. (Unit-5, Page No. : 112)	<b>1</b> <b>1</b> <b>1</b> <b>1</b> <b>1</b> <b>1</b> <b>1</b>
<b>2.</b>	(i) <b>(b) Substitute.</b> (S in SCAMPER = Substitute.) (ii) <b>(c) Prototyping.</b> Building a working model is prototyping. (iii) <b>(c) Visual explanation of the design.</b> Final presentations need clear visuals to explain ideas. (iv) <b>(c) Sustainable thinking.</b> Step well carvings showing water use reflect historical sustainability. (v) <b>(b) Sensory engagement.</b> Tactile textures increase multi-sensory user engagement. (vi) <b>(b) Plot the sequence of activities on a</b> <b>timeline</b>	<b>1</b> <b>1</b> <b>1</b> <b>1</b> <b>1</b> <b>1</b>
<b>3.</b>	(i) <b>(b) Understand user behaviour deeply.</b> Shadowing captures real usage and context. (ii) <b>(a) Ideation.</b> Color-coded post-its and mind maps are ideation techniques.	<b>1</b> <b>1</b> <b>1</b>

	(iii) <b>(b)</b> By encouraging designers to consider environmental impact of materials, energy use and maintenance (iv) <b>(c)</b> It brings unique insights and ideas to explore different perspective (v) <b>(c) Market trends and patterns.</b> Secondary research reveals broader patterns and benchmarks. (vi) <b>(c)</b> Criticize ideas immediately to save time	1  1  1
<b>4.</b>	(i) <b>(d)</b> Improvements based on user suggestions (ii) <b>(c) Iterating and improving ideas.</b> Peer suggestions fuel iteration. (iii) <b>(a) Prototyping</b> (iv) <b>(c) Utility patents.</b> Patents on how something works are utility patents. (v) <b>(c) Inclusive design.</b> Meeting all genders and needs is inclusive design. (vi) <b>(c) User understanding.</b> Empathy mapping improves understanding of users.	1  1  1  1  1
<b>5.</b>	(i) <b>(c) Prototyping process.</b> 3D renderings and cardboard models are prototype artifacts. (ii) <b>(c)</b> Keep slides concise, use visuals, practice delivery and engage the evidence interactively (iii) <b>(c) To check market viability.</b> Studying finances/tests the business case. (iv) <b>(a) Undefined ideas.</b> Abstract drawings express nascent/undeveloped ideas. (v) <b>(c) Cultural behaviour patterns.</b> Social design must be grounded in culture. (vi) <b>(b)</b> Visual demonstration of the concept.	1  1  1  1  1  1
	<p style="text-align: center;"><b>SECTION - B</b>  <b>(Subjective Type Questions)</b>  <b>Answer any 3 out of the given 5 questions on Employability Skills.</b>    <b>(3 x 2 = 6 marks)</b></p>	
<b>6.</b>	The various Factors that affect active listening are as follows : (i) Eye contact – It is a form of body language. It is one of the most important aspects in the communication process. (ii) Gestures – These indicate to the speaker if you are listening or not. (iii) Avoiding distractions – Need to identify things that distract you in order to listen attentively.	(2)

	<p>(iv) Giving feedback-Can be both positive and negative but in both the cases should not offend the other person. (Unit-1, Page No. : 4)</p> <p>(4 Heading- ½ marks each) OR (2 points – ½ marks for heading, ½ marks for explanation)</p>	
<b>7.</b>	<p>Antisocial Borderline</p> <p>(i) Disregard for others (i) Emotional instability</p> <p>(ii) Lacks empathy or guilt (ii) Feels guilty, acts impulsively (Unit-2, Page No. : 35)</p>	(1×2)
<b>8.</b>	<p>(i) They are interesting as they have features like images, videos, animation and music. (ii) Making changes in digital presentations is easy. (iii) A digital presentation can be shown to a much larger audience by projecting on a screen. (iv) The presentation can be printed and distributed to the audience. (Unit-3, Page No. : 63)</p>	(0.5x4)
<b>9.</b>	<p>(i) Initiative – An entrepreneur must be able to initiate action and take advantage of an opportunity. (ii) Motivation – It is necessary for success in every walk in life. Once you get motivated to do something, you will not rest until you complete it. (iii) Self-Confidence – For achieving success in life, a person needs to have confidence in oneself. (iv) Willingness to take risks – In any business, there is an element of risk involved. (Unit-4, Page No. : 81)</p>	(2)
<b>10..</b>	<p>Two ways to reduce greenhouse gases are :</p> <p>(i) Reduce the use of Fossil fuels by finding alternate energy sources like CNG. (ii) Using energy more efficiently in buildings, transportation and industry reducing the overall demand for energy. Ex. – LED bulbs.</p>	(1×2)

	<b>Short answers (20 – 30 words each – pick any 4) – 2 marks each.</b>	
<b>11.</b>	<i>Examples of secondary resources in research</i> Secondary resources in research can improve books, publications, newspaper, Interviews, with experts and online content like articles and websites.	<b>2</b>
<b>12.</b>	<i>Ways a traditional library becomes a creative hub</i> <b>Answer :</b> And maker-spaces, flexible seating, workshops, digital access points, exhibit space for student projects, and event programming to encourage community creativity.	<b>2</b>
<b>13.</b>	<i>Empathy important in the design thinking process</i> Empathy helps designers understand the needs, wants and pain points of the users, leading to more user- centered solutions.	<b>2</b>
<b>14.</b>	<i>How SCAMPER supports creative exploration</i> <b>Answer :</b> SCAMPER prompts systematic idea shifts (Substitute, Combine, Adapt, Modify, Put to another use, Eliminate, Reverse) to generate alternatives and reframe problems.	<b>2</b>
<b>15.</b>	<i>User feedback on prototypes important in the design thinking process</i> User feedback on prototype helps identify problems, improve the design and ensure the final product meets user needs effectively.	<b>2</b>
<b>16.</b>	<i>Emphasized when presenting to different stakeholders groups</i> Tailor content focus : technical details for peers, business impact for industry experts, user benefits for clients, learning outcomes for instructors.	<b>2</b>
	<b>Longer answers (50-80 words each – 4 marks each)</b>	
<b>17.</b>	<i>Empathy and user research in modular desk design</i> <b>Answer :</b> Aditya's measurements, observation and interviews exemplify empathy-driven research: he noticed real constraints (tiny desk, switching materials), understood workflows and frustrations, and translated them into features-modular shelves, device holders, and adjustable surfaces. Empathy	<b>4</b>

	ensured the design addressed actual needs (comfort, organisation, workflow) rather than assumed problems, increasing the likelihood of adoption and satisfaction.	
<b>18.</b>	<p><i>Basic plan for a sustainable community kitchen – at least four sustainability features</i></p> <p><b>Answer :</b> Features : (1) Solar-powered cooking/ heating to cut fossil fuel use; (2) Rainwater harvesting and filtration for cleaning; (3) Compost bins for food waste and supply of garden fertilizers; (4) Locally sourced, low-maintenance materials and shaded, permeable seating to reduce heat and runoff. Include accessible layout and educational signage on sustainable practices.</p>	<b>4</b>
<b>19.</b>	<p><i>How spatial-social mapping influences public space design</i></p> <p><b>Answer :</b> Mapping showed demand for shaded seating near greenery and avoidance of hot central zones; designers can re-locate seating to cooler edges, and shaded corridor, plant trees, create acoustic buffers, and redesign materials to reduce heat. Data-driven placements optimize comfort, increase usage, and guide budget prioritisation for landscaping and shade structures.</p>	<b>4</b>
<b>20.</b>	<p><i>Method to evaluate and refine ideas during ideation (prioritisation + sketches)</i></p> <p><b>Answer :</b> Use an impact-Feasibility matrix : score each idea on user impact and technical/financial feasibility, shortlist top quadrants, create rapid low-fidelity sketches or prototypes for those, and run quick user tests. Iterate based on feedback, re-score and select concepts for development. This combines objective scoring with fast validation.</p>	<b>4</b>
<b>21.</b>	<p><i>How scenario building and concept videos improve stakeholder engagement</i></p> <p><b>Answer :</b> Scenario videos simulate real use—showing context, emotions, and outcomes—making benefits tangible for stakeholders. They reduce abstraction, demonstrate usability and impact, and foster empathy. Videos help decision-makers visualize implementation, speed approval, and attract support / partners by presenting clear, shareable narratives and evidence of user acceptance.</p>	<b>4</b>

22.	<p><i>Differentiate design vs utility patents; steps to file a design patent in india</i></p> <p><b>Answer :</b> A utility patent protects functional/technical inventions (how something works); a design patent (or registered design) protects the ornamental/visual appearance (shape, pattern).</p> <p><b>Steps to file a design patent in India (concise) :</b></p> <ol style="list-style-type: none"> <li>1. Conduct a design search to ensure novelty.</li> <li>2. Prepare drawings/photographs clearly showing the design.</li> <li>3. File application with the Controller General of Patents, Designs &amp; Trade Marks (include representation and statement).</li> <li>4. Request examination and respond to objections if any.</li> <li>5. On acceptance, the design is registered and published.</li> </ol>	<p><b>1</b></p> <p><b>3</b></p>
	- o O o -	