



## INDIAN SCHOOL AL WADI AL KABIR

CLASS: IX  
DATE: 29/09/24

**MID TERM EXAMINATION (2024-2025)**

MAX MARKS: 50  
TIME: 2 HOURS

**DESIGN THINKING & INNOVATION**

### **MARKING SCHEME**

**Set - 1**

#### **GENERAL INSTRUCTIONS:**

1. Please read the instructions carefully.
2. This Question Paper consists of two sections: Section A & Section B.
3. Section A has Objective type questions whereas Section B contains Subjective type questions.

#### **SECTION A - OBJECTIVE TYPE QUESTIONS (24 MARKS):**

- i. This section has 24 questions.
- ii. Marks allotted are mentioned against each question/part.
- iii. There is no negative marking.
- iv. Do as per the instructions given.

#### **SECTION B – SUBJECTIVE TYPE QUESTIONS (26 MARKS):**

- i. This section has 14 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.

**24 x 1 = 24**

#### **SECTION – A**

<b>Q.NO</b>	<b>ANSWERS</b>
<b>1</b>	(d) All of the above
<b>2</b>	(c) Reading

<b>3</b>	(d) It is the study of the sounds we make when we speak.
<b>4</b>	(a) My first name is Arjun (b) My surname is Raj (c) I am nine-year-old (d) I live in Bengaluru (e) I like football and swimming
<b>5</b>	(b) Design
<b>6</b>	(d)Five
<b>7</b>	(d)Understand
<b>8</b>	(c)Design thinker
<b>9</b>	(b) Innovation
<b>10</b>	(d)Reflect
<b>11</b>	(c)Aperture

<b>12</b>	(c)Sensor
<b>13</b>	(b) Point and shoot
<b>14</b>	(c)Pixels
<b>15</b>	(a)Wide lenses
<b>16</b>	(a)Above 50mm
<b>17</b>	(b)Night mode
<b>18</b>	(a)Focal length
<b>19</b>	(b)Genres of photography
<b>20</b>	(a)Point
<b>21</b>	(c)Principles of design
<b>22</b>	(c)Tessellating pattern
<b>23</b>	(a)Fibonacci sequence
<b>24</b>	(a)Golden spiral

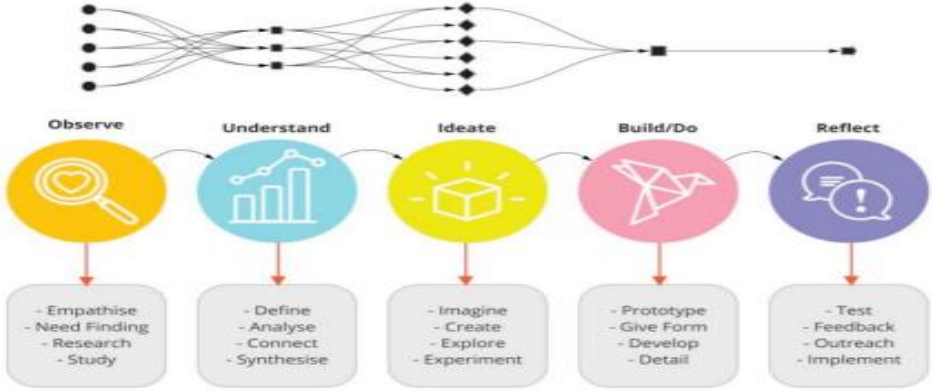
## **SECTION B: SUBJECTIVE TYPE QUESTIONS**






**Answer any 7 out of the given 9 questions, (2 x 7 = 14 marks)**

25	a. Language b. Virtual perception c. Past experience d. Prejudice e. Feelings f. Personal factors g. Culture h. Environment	2
26	Giving & Receiving – Ex- Reading and listening for receiving information Writing and speaking for giving information	2
27.	a. clear b. concise c. coherent d. clear e. correct f. concrete g. complete h. courteous	2
28	Close ended questions – limited answer either a yes or no Open ended questions – No limited answers	2
29	The one who creates solution to problem is a design thinker	2
30	a. Lens b. Aperture c. Shutter	2

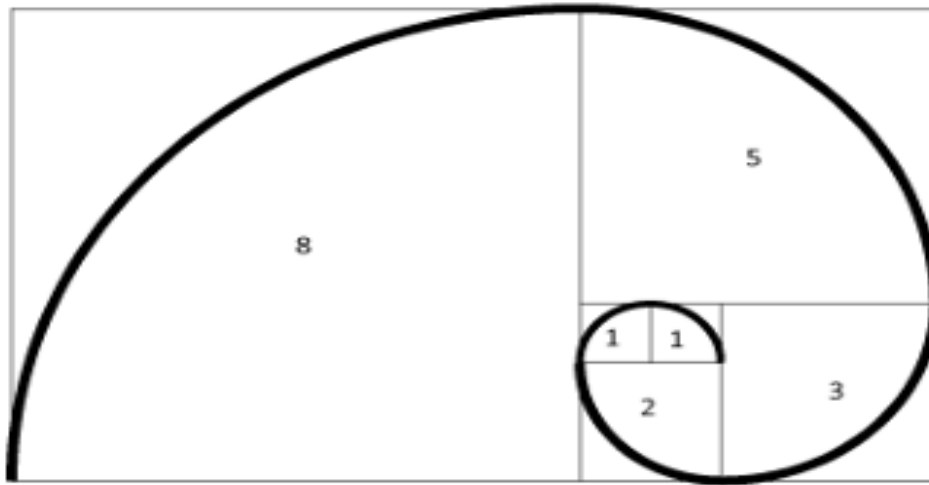
	d. Sensor	
31	a. Point and shoot b. Medium format c. Large format d. DSLR (APSC sized sensor)	2
32	Creating object with black tiny dots	2
33	Point, line, plane & volume	2

**Answer any 3 out of the given 5 questions , (4 x 3 = 12 marks)**

34.	<p>Explain the different phases of design thinking process with the help of diagram.</p> 	4
35.	Differentiate between prime lenses and zoom lenses	4

	<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p><b>Prime lenses</b></p> <ul style="list-style-type: none"> <li>• Fixed focal length</li> <li>• Better image quality</li> <li>• More expensive</li> <li>• Less distortion or Aberrations</li> </ul>  </div> <div style="color: red; font-size: 2em; font-weight: bold;">Vs</div> <div style="text-align: center;"> <p><b>Zoom lenses</b></p> <ul style="list-style-type: none"> <li>• Variable focal length</li> <li>• Lower image quality</li> <li>• Less expensive</li> <li>• Distortion or Aberrations at the extreme ends of the zoom range</li> <li>• Gives you Flexibility</li> </ul>  </div> </div>	
36.	<p>Explain different types of symmetries, draw one example for each symmetry.</p> <p><b>Reflection:</b> elements reflected across an axis</p> <div style="display: flex; justify-content: space-around;">  </div> <p><b>Rotational:</b> elements rotated around a point</p> <div style="display: flex; justify-content: space-around;">  </div> <p><b>Translational:</b> elements are repeated by shifting or sliding its position</p> <div style="display: flex; justify-content: space-around;">  </div>	4
37.	<p>Explain the term golden spiral with the help of a diagram.</p> <p>The golden ratio rooted in mathematical principles helps one create balanced pleasing proportionate designs. - the golden ratio is generated by the Fibonacci Sequence, which is a series of numbers created with the addition of previous 2 numbers.</p> <p>Fibonacci Sequence: 1, 1, 2, 3, 5, 8, 13, 21, 34, etc. If you divide the larger number by its previous number you get the golden ratio = 1.618 which is also called as Phi - if you draw and place squares with these numbers as its side, and connect the</p>	4

diagonals with a curve, it results in a spiral. This spiral is called as the golden spiral.



38. Define the terms optical zoom and digital zoom

4

**OPTICAL ZOOM VS DIGITAL ZOOM:**

- OPTICAL ZOOM IS THE PHYSICAL ZOOM THE OPTICS IN THE CAMERA CAN PERFORM.
- OPTICAL ZOOM IS BETTER THAN DIGITAL ZOOM.
- DIGITAL ZOOM IS THE AMOUNT OF ZOOMING THE CAMERA DOES DIGITALLY.
- DIGITAL ZOOM ONLY ENLARGES THE CENTRE OF YOUR FRAME BY CROPPING.

