



Indian School Al Wadi Al Kabir

Midterm Examination (2024-25)

Class: IX

Sub: Skill Subject

Max. Marks: 50

DESIGN THINKING & INNOVATION (422)

Date: 29/09/2024

Set - I

Time: 2 hours

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.

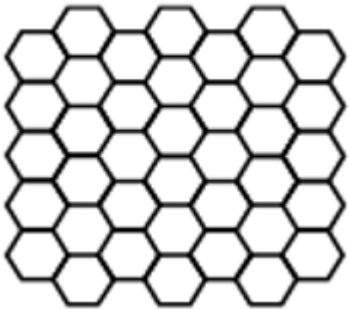
SECTION – A: OBJECTIVE TYPE QUESTIONS

24 x 1 = 24

1.	What is the purpose of communication? (a) Inform (tell someone about something) (b) Influence (get someone to do something you want) (c) Share thoughts, ideas, feelings (d) All of the above	1
2.	Which of the following methods are used to receive information from the sender through a letter? (a) Listening (b) Speaking (c) Reading (d) Writing	1

3.	<p>What is phonetics?</p> <p>(a) It is the study of how we write words in English. (b) It is the study of how people understand sentences. (c) It is the study of how many words the English language has. (d) It is the study of the sounds we make when we speak.</p>	1
4.	<p>Use the following words to complete the form given below. football and swimming, nine-years-old, Arjun, Raj, in Bengaluru.</p> <p>(a) My first name is _____. (b) My surname is _____. (c) I am _____. (d) I live _____. (e) I like_____.</p>	1
5.	<p>----- is about understanding needs and being sensitive to issues, identifying problems that need to be solved, and creating innovative appropriate solutions</p> <p>(a) Innovation (b) Design (c) Thinking (d) Understand</p>	1
6.	<p>Design thinking involves the following ----- phases in the process of solving a problem:</p> <p>(a) Six (b) Four (c) Three (d) Five</p>	1
7.	<p>In which phase of the design thinking process we define/analyze the problem?</p> <p>(a) Observe (b) Ideate (c) Reflect (d) Understand</p>	1
8.	<p>-----is a person who applies the Design Thinking process to solve problems and find creative innovative solutions in any field or domain.</p> <p>(a) Innovator (b) Creator (c) Design thinker (d) Engineer</p>	1
9.	<p>-----involves the implementation of something new and replacing or reframing the existing mindset.</p> <p>(a) Designing (b) Innovation</p>	1

	(c) Creation (d) Maintenance	
10.	Which is the last phase of design thinking process? (a) Observe (b) Build/do (c) Ideate (d) Reflect	1
11.	Which part controls the amount of light entering to the camera? (a) Sensor (b) Shutter (c) Aperture (d) Lens	1
12.	Which part of the camera reads the image from the lens? (a) Aperture (b) Shutter (c) Sensor (d) LCD screen	1
13.	From the given below list, which camera is small and compact? (a) DSLR (APSC sized sensor) (b) Point and shoot (c) Full frame DSLR (d) Large format	1
14.	The number of -----in an image sensor determines the resolution and detail captured by the camera. (a) Frames (b) Points (c) Pixels (d) Lines	1
15.	Which lens is mainly used for landscape photography? (a) Wide lenses (b) Macro lenses (c) Micro lenses (d) Normal lenses	1
16.	The focal length range of a Telephoto lenses is ----- (a) 50 mm (b) Above 50 mm (c) Below 50 mm (d) 100mm	1


17.	Which mode is ideal for shooting portraits at night? (a) Portrait mode (b) Night mode (c) Macro mode (d) Program mode	1
18.	The ----- of a lens is the optical distance (usually measured in mm) from the point where the light meets inside the lens to the camera's sensor. (a) Focal length (b) Light (c) Color (d) Brightness	1
19.	Sports photography, wedding photography, wildlife photography etc. are examples of ----- (a) Modes of cameras (b) Genres of photography (c) Modes of lenses (d) Genres of sensors	1
20.	A ----- is the smallest fundamental of design. (a) Point (b) Volume (c) Line (d) Plane	1
21.	Balance, Negative and Positive spaces, Rhythm, Emphasis, Unity, Proportion, etc. are called as ----- (a) Elements of design (b) Fundamentals of design (c) Principles of design (d) Basics of design	1
22.	The given below figure is an example for -----  (a) Symmetry (b) Asymmetry	1

	(c) Tessellating pattern (d) Golden spiral	
23.	The golden ratio is generated by the -----, which is a series of numbers created with the addition of previous 2 numbers. (a) Fibonacci sequence (b) Prime numbers (c) Partition numbers (d) Sylvester's sequence	1
24.	The shapes in nature such as sea shells, sunflower seeds, eye of the storm etc. are examples of ----- (a) Golden spiral (b) Symmetry (c) Tessellating patterns (d) planes	1

SECTION B: SUBJECTIVE TYPE QUESTIONS

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

25.	Sometimes, we are not able to communicate clearly because of barriers that stop us from sharing and understanding messages. Write down the factors affecting perspectives in communication.	2
26.	Explain the elements of communication with examples	2
27.	Effective communication can happen if we follow the basic principles of professional communication skills. These can be abbreviated as 7 C's. Name the basic principles of professional communication skills which is abbreviated as 7C's.	2
28.	Define the terms – Close ended and Open-ended questions	2
29.	Who is a design thinker?	2
30.	Name the main four parts of camera	2
31.	Name four different types of cameras	2
32.	The given below figure is a cube created with dots. Explain about this process.	2

		
33.	What are the basic elements of design.	2

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

34.	<p><u>Case study</u></p> <p>The local public library in the city of Rivertown has been facing challenges with user engagement and satisfaction. Despite having a range of resources including books, digital media, and community programs, recent surveys indicate that many community members find the library's services outdated and not user-friendly. The library's management team has decided to address these issues using the design thinking process. Explain the different phases of design thinking process with the help of diagram.</p>	4
35.	<p><u>Case study</u></p> <p>You are a professional photographer who specializes in both portrait and landscape photography. Recently, you have been asked to contribute to a photography workshop where you will be discussing the differences between prime and zoom lenses. The workshop attendees include both amateur and professional photographers who are keen to understand the practical implications of choosing between these two types of lenses. Explain the differences between prime lenses and zoom lenses</p>	4
36.	<p><u>Case study</u></p> <p>You are a designer tasked with creating a decorative tile pattern for a new public space. The tile pattern is intended to be both visually appealing and functional, with a focus on symmetry. The design should be analyzed in terms of its rotational, reflectional, and translational symmetries to ensure it meets aesthetic and practical criteria. Explain different types of symmetries, draw one example for each symmetry.</p>	4

37.	<p><u>Case study</u></p> <p>Imagine you are an architect tasked with designing a new cultural center in a city known for its historical buildings and modern architectural advancements. The client requests that the building's design incorporate elements of the golden spiral to reflect a blend of tradition and innovation. Explain the term golden spiral with the help of a diagram.</p>	4
38.	<p><u>Case study</u></p> <p>A smartphone manufacturer is planning to launch a new model with advanced camera features. The company is debating between implementing a high optical zoom lens or relying on digital zoom technology to achieve long-range zoom capabilities. The decision will affect the cost, image quality, and marketing strategy of the device. Define the terms optical zoom and digital zoom</p>	4