

Enrollment No./Seat No.:

GUJARAT TECHNOLOGICAL UNIVERSITY

Bachelor of Interior Design - SEMESTER - V EXAMINATION - WINTER 2025

Subject Code: 2X55107

Date: 13-11-2025

Subject Name: Lighting and Lighting Design

Time: 10:30 AM TO 12:30 PM

Total Marks: 50

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

	Marks
Q.1 (a) Sketch and label schematic sections of window designs for 3 types of natural light. A) Direct Lighting, B) Diffused lighting, C) Reflected Lighting	07
(b) Explain and draw sketches what specific kind of natural light would be most beneficial with what type of opening and orientation of sun for a reading corner in a room.	08
Q.2 (a) Explain Task Lighting, Ambient Lighting and Accent lighting through sketches	07
(b) Design a pendant light fixture for a contemporary dining room. Describe the materials you would use and its details through sketches.	08
OR	
(b) Design a lighting installation for a double height lobby of an IT firm. Explain design, materials and details through drawings	08
Q.3 (a) select from the following which fixture is most commonly used to create focused illumination on art or displays in a gallery space? Explain your answer. a) Floodlights b) Track lights c) Pendant lights d) Wall washers	03
(b) Select appropriate option for the following MCQ's	02
1. Lighting plan typically includes all of the following except: A. Fixture layout B. Circuit diagram C. Reflected ceiling plan D. Furniture cost estimates	
2. Which of the following lighting types offers the highest energy efficiency? A. Incandescent B. Halogen C. CFL D. LED	

OR

- | | |
|---|----|
| (a) In an art gallery, which lighting technique is used to reduce glare and unwanted reflections on glass-covered artworks or display cases? Explain your answer.
a) Backlighting b) Up lighting c) Cross lighting d) Angled lighting | 03 |
|---|----|

(b) Select appropriate option for the following MCQ's **02**

1. The term 'lumen' refers to:
 - A. Electrical power
 - B. Amount of visible light emitted
 - C. Resistance in the circuit
 - D. Light color temperature
2. A color temperature of 2700K produces what type of light?
 - A. Cool white
 - B. Warm white
 - C. Daylight
 - D. Blue light

Q.4 (a) What are the suggested lux levels for living room? And why? **03**

(b) Which lighting method is most suitable for highlighting textures on a wall? Explain your answer through a quick sketch. **02**

- A. Task lighting
- B. Ambient lighting
- C. Grazing
- D. Back lighting

OR

(a) A client wants to convert their basement into a library. Suggest appropriate lighting fixtures to achieve the recommended lux levels. **03**

(b) Which lighting method is most suitable for workstations? Explain your answer through a quick sketch. **02**

- A. Ambient ceiling lighting only
- B. Colored LED accent lights
- C. Glare-free task lighting with neutral white LEDs
- D. Wall-mounted sconces with warm light

Q.5 (a) Which interior spaces are suited for a) warm lighting and b) cool lighting? Give explanation for your answer **05**

(b) Match the lighting fixture (Column A) with its most suitable application (Column B): **05**

Column A

Column B

- | | |
|-----------------------|--|
| 1. Track light | A. General ceiling lighting |
| 2. Recessed downlight | B. Highlighting artwork |
| 3. Pendant lamp | C. Over dining tables or counters |
| 4. LED Strip Light | D. Cove lighting or shelf illumination |
| 5. Floor lamp | E. Task lighting near sofas or chairs |

OR

(a) What is colour rendering Index (CRI)? How does it affects interior space? 05

(b) **State whether the following statements are *True* or *False* (and briefly justify if false):** 05

1. All LEDs produce a harsh, cold light.
2. Higher wattage always means brighter light.
3. Natural daylight has a CRI of 100.
4. Task lighting should be brighter than ambient lighting.
5. Accent lighting is unnecessary in small spaces.
