

Unit-III

Illumination Engineering

1. A polar curve is used to represent:

- A) Voltage distribution**
- B) Current distribution**
- C) Luminous intensity distribution of a lamp**
- D) Power factor variation**

Answer: C) Luminous intensity distribution of a lamp

2. Photometry is the science of measurement of:

- A) Sound**
- B) Heat**
- C) Light**
- D) Pressure**

Answer: C) Light

3. The SI unit of luminous intensity is:

- A) Lumen**
- B) Lux**
- C) Candela**
- D) Watt**

Answer: C) Candela

4. The SI unit of luminous flux is:

- A) Candela**
- B) Lux**
- C) Lumen**
- D) Joule**

Answer: C) Lumen

5. An integrating sphere is used for measuring:

- A) Temperature**
- B) Total luminous flux of a lamp**
- C) Resistance**
- D) Current**

Answer: B) Total luminous flux of a lamp

6. Which of the following is an incandescent lamp?

- A) LED Lamp
- B) Fluorescent Lamp
- C) Tungsten Filament Lamp
- D) Sodium Vapor Lamp

Answer: C) Tungsten Filament Lamp

7. The principle of operation of a fluorescent lamp is based on:

- A) Incandescence
- B) Gas discharge and fluorescence
- C) Resistance heating
- D) Electrolysis

Answer: B) Gas discharge and fluorescence

8. CFL stands for:

- A) Compact Fluorescent Lamp
- B) Compact Filament Lamp
- C) Current Fluorescent Lamp
- D) Compact Flood Lamp

Answer: A) Compact Fluorescent Lamp

9. Which lamp has the highest energy efficiency among the following?

- A) Tungsten Lamp
- B) CFL
- C) LED Lamp
- D) Carbon Arc Lamp

Answer: C) LED Lamp

10. LED stands for:

- A) Light Emitting Diode
- B) Light Energy Device
- C) Low Emission Diode
- D) Linear Electric Device

Answer: A) Light Emitting Diode

11. Mercury vapor lamps belong to the category of:

- A) Incandescent lamps**
- B) Discharge lamps**
- C) Arc furnaces**
- D) Filament lamps**

Answer: B) Discharge lamps

12. Sodium vapor lamps are widely used for:

- A) Decorative lighting only**
- B) Street lighting**
- C) Domestic cooking**
- D) Factory motors**

Answer: B) Street lighting

13. The characteristic yellow-orange color is produced by:

- A) Mercury Vapor Lamp**
- B) LED Lamp**
- C) Sodium Vapor Lamp**
- D) Tungsten Lamp**

Answer: C) Sodium Vapor Lamp

14. Neon lamps are commonly used in:

- A) Sign boards and advertisements**
- B) Street lighting only**
- C) Factory lighting only**
- D) Flood lighting only**

Answer: A) Sign boards and advertisements

15. Compared to fluorescent tubes, tungsten filament lamps have:

- A) Higher efficiency**
- B) Longer life**
- C) Lower efficiency**
- D) Better lumen output per watt**

Answer: C) Lower efficiency



16. The main purpose of light control is to:

- A) Increase power consumption**
- B) Direct light where it is needed**
- C) Increase heat generation**
- D) Reduce lamp life**

Answer: B) Direct light where it is needed

17. Which type of lighting scheme provides uniform illumination over an area?

- A) General Lighting**
- B) Local Lighting**
- C) Decorative Lighting**
- D) Emergency Lighting**

Answer: A) General Lighting

18. Illumination is measured in:

- A) Candela**
- B) Lux**
- C) Lumen**
- D) Watt**

Answer: B) Lux

19. Flood lighting is mainly used for:

- A) Reading rooms**
- B) Sports grounds and monuments**
- C) Kitchens only**
- D) Laboratories only**

Answer: B) Sports grounds and monuments

20. Factory lighting should provide:

- A) Poor visibility**
- B) Uniform and adequate illumination**
- C) Colored illumination only**
- D) High glare**

Answer: B)

Fill in the Blanks – Illumination and Lighting (25 Questions with Answers)

1. The unit of luminous intensity is _____.
Answer: candela
2. The unit of luminous flux is _____.
Answer: lumen
3. Illumination is measured in _____.
Answer: lux
4. One lux is equal to one lumen per square _____.
Answer: meter
5. According to the inverse square law, illumination is inversely proportional to the square of the _____.
Answer: distance
6. Lambert's cosine law states that illumination is proportional to the _____ of the angle of incidence.
Answer: cosine
7. The ratio of lumens reaching the working plane to the total lumens emitted is called the coefficient of _____.
Answer: utilization
8. The reduction in illumination due to aging and dust accumulation is accounted for by the _____ factor.
Answer: depreciation
9. A polar curve represents the distribution of _____ intensity in different directions.
Answer: luminous
10. The science of measurement of light is known as _____.
Answer: photometry
11. An integrating sphere is used for measuring total luminous _____.
Answer: flux
12. The filament in an incandescent lamp is usually made of _____.
Answer: tungsten
13. Fluorescent lamps operate on the principle of _____ discharge.
Answer: gas

14. A Compact Fluorescent Lamp is commonly abbreviated as _____.
Answer: CFL
15. LED stands for Light Emitting _____.
Answer: Diode
16. Mercury vapor lamps produce light due to an electric discharge through _____ vapor.
Answer: mercury
17. Sodium vapor lamps are known for their high _____ efficiency.
Answer: luminous
18. Neon lamps emit a characteristic _____ colored light.
Answer: reddish-orange
19. Compared to tungsten filament lamps, fluorescent lamps have higher _____ efficiency.
Answer: luminous
20. The process of directing light to desired areas is called light _____.
Answer: control
21. Direct lighting systems direct most of the light _____.
Answer: downward
22. In lighting design, the working plane is the surface where visual tasks are _____.
Answer: performed
23. Factory lighting should provide adequate illumination with minimum _____.
Answer: glare
24. Street lighting is primarily designed to improve _____ and visibility.
Answer: safety
25. Flood lighting is used to illuminate large outdoor _____.
Answer: areas

Additional Practice Fill in the Blanks

26. The lumen output of a lamp decreases with age due to lamp _____.
Answer: depreciation
27. The efficiency of a lamp is measured in lumens per _____.
Answer: watt



28. Sodium vapor lamps are widely used for _____ lighting.

Answer: street

29. The color rendering capability of a light source is expressed by the _____

Rendering Index.

Answer: Color

30. LED lamps have a longer _____ than conventional incandescent lamps.

Answer: life