

Easy

Deputy Executive Engineer (Electricity)

2026

Gujarat Public Service Commission / Assistant Engineer (Electrical)

Consider the following statements regarding LED lighting in industrial environments: 1. LEDs have higher luminous efficacy compared to High-Pressure Mercury Vapor

A

All of the above

B

2 and 3 only

C

1 and 3 only

D

1 and 2 only

Correct

Correct Answer: D

Full Detailed Explanation

Correct Answer: D - 1 and 2 only

Quick Concept Explanation Modern industrial LEDs provide high luminous efficacy and long service life compared with older mercury-vapor technology. Suitable luminaires can also provide high CRI, so poor color rendering is not an inherent LED limitation; inspection areas can be designed with high-CRI LED sources. Key relation: Luminous efficacy=lumens/electrical watt.Exam focus: Check efficacy, lifetime, CRI and glare together. Common trap: LED does not automatically mean poor CRI. Statement-wise Verification Statement 1 - Correct.LEDs have higher luminous efficacy compared to High-Pressure Mercury Vapor lamps.Modern industrial LEDs provide high luminous efficacy and long service life compared with older mercury-vapor technology. Statement 2 - Correct.They offer a longer operational life, typically exceeding 50,000 hours.Modern industrial LEDs provide high luminous efficacy and long service life compared with older mercury-vapor technology. Statement 3 - Incorrect.The Color Rendering Index (CRI) of LEDs is generally poor for detailed industrial inspection tasks.The correct principle is: Suitable luminaires can also provide high CRI, so poor color rendering is not an inherent LED limitation; inspection areas can be designed with high-CRI LED sources. Core Concept Modern industrial LEDs provide high luminous efficacy and long service life compared