

Easy

Deputy Executive Engineer (Electricity) 2026

Assistant Engineer (Electrical) Gujarat / Assistant Engineer (Electrical) Gujarat

LED

- A
- B

23
- C

13
- D

12

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 with