JT Sec E)
L-3
Nov 2)

Practical Test (Level-3)

Junior Technician (ECE)

Total Marks:40

19.11.2023

1. It is required to implement a lighting scheme for a long road tunnel where it is difficult to get natural light. In order to save Electricity, multiple LED lamps are placed at regular intervals such that when a vehicle enters the tunnel, the lights are automatically ON till the vehicle passes the light and is automatically OFF after the vehicle crosses the light for a situation where there are 20 LED lights covering a distance of 1 km.
   Design a digital logic and required interfacing with sensing and electrical hardware to accomplish the mentioned objective.

2. Why are short circuit and open circuit tests conducted on a transformer. Explain with the aid of practical circuit diagrams.

3. Write the function of all the pins of a 741 operational amplifier. How is offset adjustment achieved in an operational amplifier circuit. List the ideal characteristics of an operational amplifier.

4. Given below is the circuit diagram of a 230 V, 40 W tube light with all the necessary components. Explain the operation of tube light.

