

**DIPLOMA IN SMART CITY DEVELOPMENT  
AND MANAGEMENT (DSCDM)**

**Term-End Examination**

**June, 2022**

**MIO-003 : SMART URBAN ENERGY AND SMART  
TRANSPORTATION SYSTEMS**

*Time : 3 hours*

*Maximum Marks : 70*

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**Note :** Attempt any **seven** questions. All questions carry equal marks.

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1. (a) Discuss the various applications of solar energy in a smart city.
- (b) Explain the goals of smart lighting in brief. *5+5=10*
2. (a) Discuss the concept of Prognostics in Energy Management Systems.
- (b) Explain the smart grid electricity distribution system, with the help of a neat sketch. *5+5=10*

3. What is BRT ? Explain the principles to be followed in developing BRT system. 10
4. Discuss the various stages of intelligent planning in detail. 10
5. (a) Explain the centralized traffic control and monitoring system.
- (b) Discuss the features of connected vehicles. 5+5=10
6. Distinguish between any **two** of the following : 5+5=10
- (a) Smart grid and Micro grid
- (b) BRT and LRT
- (c) Battery electric vehicle and Hybrid electric vehicle
7. Discuss the challenges of an Autonomous Vehicle. 10
8. Define IOT and explain its application in transportation sector. 10
9. Write a detailed study on smart transportation system. 10

10. Write short notes on any **four** of the following :  $4 \times 2 \frac{1}{2} = 10$

- (a) Solar Photovoltaic System
  - (b) Biomass Energy
  - (c) Plug-in Charging of EV
  - (d) Vehicle Tracking System
  - (e) Real Time Transient Models
  - (f) Automated Parking
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