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**MIO-003**

**DIPLOMA IN SMART CITY  
DEVELOPMENT AND  
MANAGEMENT/CERTIFICATE IN  
SMART CITY DEVELOPMENT AND  
MANAGEMENT  
(DSCDM/CSCDM)**

**Term-End Examination  
December, 2025**

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

*Time : 3 Hours*

*Maximum Marks : 70*

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**Note :** (i) Answer any **seven** questions.

(ii) All questions carry equal marks.

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1. What are the applications of the solar energy in smart cities ? Explain in detail with the example of any smart city. 10

2. (a) Discuss the significance of IoT in smart lighting system.
- (b) How does a smart meter work in smart grid infrastructure ? 5+5=10
3. What is SCADA ? How is it useful in energy transmission ? 10
4. Discuss the principles to be followed in developing a BRT system. 10
5. (a) Explain the objectives and applications of intelligent transportation system.
- (b) What is Adaptive traffic control system ? Explain any one method of traffic data collection sources in ATCS. 5+5=10
6. Describe the features of connected vehicles. 10
7. How can IoT and Big Data be utilized in providing better services to users in the transport sector ? 10
8. Highlight the key challenges in the Delhi metro in terms of technology and operations. 10

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9. (a) Explain the working of hybrid electric vehicles.
- (b) Describe the IT enabled enforcement systems 5+5=10
10. Write short notes on any *two* of the following :
- (a) Charging of electric vehicle
- (b) Clean energy
- (c) SCOOT analysis
- (d) Alert system 5+5=10

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