MIO–003

DIPLOMA/CERTIFICATE IN SMART CITY DEVELOPMENT AND MANAGEMENT (DSCDM)/(CSCDM)
Term-End Examination
June, 2024

MIO–003 : SMART URBAN ENERGY AND SMART TRANSPORTATION SYSTEMS

Time : 3 Hours   *Maximum Marks : 70*

Note : *Answer any s**even** questions. All questions carry equal marks.*

1. (a) Discuss the concept of Prognostics in Energy Management Systems. 5

   (b) Explain the smart grid electricity distribution system with the help of neat sketch. 5

2. Discuss the various stages of intelligent planning in smart city. 10

3. (a) Distinguish between LRT and BRT. 5

   (b) Write a short note on Smart grid. 5

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4. Define IOT. Explain applications of IOT in transportation for smart city. 10

5. Discuss the future of public transport system considering the possible change due to ITS technology. 10

6. (a) Define Autonomous vehicle. Differentiate between a connected and autonomous vehicle. 5

   (b) Discuss the importance of Analytics in transportation sector. 5

7. (a) Differentiate between parallel hybrid and series parallel hybrid electric vehicle system. 5

   (b) Explain how a wireless changing system works for electric vehicles. 5

8. What is smart mobility ? Discuss how it facilitates the last-mile connectivity. 10

9. (a) Explain how the e-chlallan system works. 5

   (b) Discuss the philosophy behind red light violation detection system. 5

10. Write short notes on any *four* of the following :

$$4 \times 2\frac{1}{2} = 10$$

    (a) Biomass energy

    (b) Vehicle Tracking System

    (c) Automated parking

    (d) Solar energy in a smart city

    (e) Integrated multi-modal transport system

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