

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

**Term-End Examination
June, 2026**

**MIO-002 : SMART TECHNOLOGIES
(HARDWARE AND SOFTWARE)**

Time : 3 Hours

Maximum Marks : 70

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

1. How can IoT devices be used to monitor and track the data of any patient ? Explain the complete process in detail. 10
2. (a) What is the use of various sensors in weather monitoring system ? 5
- (b) Define IIOT. Explain the architecture of Industry 4.0 and its benefits to any production industry. 5

3. (a) Compare the existing grid and smart grid system. What is advance metering infrastructure system ? 5
- (b) Write short note on Plug-in Electric Vehicle and cyber security in context of smart city. 5
4. (a) What do you mean by renewable energy ? Explain the various sources of renewable energy. 5
- (b) Explain the working of Blockchain Technology. 5
5. What are the objectives of implementing Big Data analytics in the development and management of smart cities ? How can data science be used to achieve those objectives ? 10
6. (a) Write short note on blockchain application in healthcare. 5
- (b) What challenges are faced before applying blockchain to a smart city application ? 5

7. (a) Define Machine learning and its types. 5
(b) How AI is influencing the education field ? Explain briefly. 5
8. What is a smart grid and its elements ? How can blockchain technology are used to improve supply chain management operations ? 10
9. (a) Differentiate between descriptive and predictive analysis. 5
(b) What is GIS ? Explain its components. 5
10. What are the potential applications of IOT in home automation ? How is it used to improve comfort, safety and efficiency ? 10

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