GE2313 Quick Recap

01 Introduction to Smart Cities

1. What are the main reasons for urbanization?
2. What are the key challenges caused by urbanization?
3. What are the three key stakeholders in a smart city?
4. How is a smart city defined?
5. How do smart cities enable sustainability?
6. What are the main enabling technologies for smart cities?
7. What are the four layers of smart city architecture?

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02 Enabling Technologies for Smart Cities

1. What is IoT and what are its key components?
2. What are the main challenges associated with IoT?
3. What are the three main technological features of 5G?
4. What are the pros and cons of 5G?
5. What are the differences between cloud, fog, and edge computing?
6. What are the three levels of cloud services and their examples?
7. What are the pros and cons of cloud and fog/edge computing?
8. What are the main stages and paradigms of AI development?
9. What is the difference between weak AI and strong AI?
10. What are the 5Vs of Big Data?
11. What are the key enablers of Big Data?
12. What are some applications of Big Data in marketing?
13. What are the pros and cons of targeted advertising?
14. What are the differences between VR, AR, MR, and XR?
15. What are the main applications of VR and AR?

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03 E-Government

1. What is e-government and what are its goals?
2. What does the E-Government Development Index (EGDI) measure?
3. What are the three components of EGDI?

4. What is the E-Participation Index (EPI)?
5. What are the four types of e-government services?
6. What are the four phases of the e-government model?
7. What are the benefits of e-government for citizens, businesses, and government?
8. What are the main challenges of implementing e-government?

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04 Smart City Management

1. What are the main focuses of smart city management?
2. What are the five flows managed in smart cities?
3. How can smart technologies be applied to water management?
4. What functions can smart streetlights provide?
5. What are the four phases of emergency management?
6. How are smart technologies used in parks and museums?

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05 Smart Energy

1. What is a smart grid and how does it differ from a traditional grid?
2. What is Demand Side Management (DSM)?
3. What is Time-of-Use (TOU) metering?
4. What are the benefits of smart meters?
5. What are renewable energy sources and their advantages/disadvantages?
6. What are the main types of solar and wind energy systems?
7. How do hydropower and tidal power work?
8. Why is smart energy management urgently needed?

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06 Smart Manufacturing

1. What is Industry 4.0 and what are its enabling technologies?
2. What are the key factors for productive manufacturing?
3. What is a Decision Support System (DSS)?
4. How are VR and AR used in manufacturing?
5. What is a digital twin?
6. What are the benefits and challenges of Industry 4.0?

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07 Smart Banking & Smart Business

1. What is FinTech and what are its enabling technologies?
2. How does autotrading work and what techniques are used?
3. What is blockchain and how does it work?
4. What is cryptocurrency and how are transactions validated?
5. What are NFTs and what issues are associated with them?
6. What are the main types of e-commerce business models?
7. What is influencer marketing and how does it work?
8. What are the key elements and types of display advertising?
9. How are Click-through Rate (CTR) and Conversion Rate (CVR) calculated?