

GUJARAT TECHNOLOGICAL UNIVERSITY

BE-7 SEMESTER – OLD PAPER – S22 TO S24 – QUESTION BANK

Subject Name & Code:

ICT For Development- 3170627

Unit 1: Physical Network

Repeated Questions:

1. **Define the terms: Packet, Circuit, Router.**
 - Appeared in: S22 (Q2a, 03 marks), S24 (Q1a, 03 marks), W23 (Q1a, 03 marks), S23 (Q1a, 03 marks), W22 (Q1a, 03 marks)
2. **Define the terms: LAN, WAN, and MAN.**
 - Appeared in: S22 (Q1a, 03 marks), S24 (Q2a, 03 marks), W23 (Q2a, 03 marks), S23 (Q2a, 03 marks), W22 (Q2a, 03 marks)
3. **Briefly explain managed and unmanaged switches.**
 - Appeared in: S22 (Q1b, 04 marks)

Other Important Questions:

4. Define the terms: Routers and Switches. (W23 - Q1a, 03 marks)
5. Write a short note on fiber optics. (S23 - Q1b, 04 marks)
6. Give the importance of internet and computer as a key feature/tool of modern Information and Communication Technology. (W22 - Q1b, 04 marks), (S24 - Q1b, 04 marks), (W23 - Q1b, 04 marks)
7. What are the various network topologies? Explain with example. (S22 - Q1c, 07 marks)
8. Explain various network topologies with appropriate examples. (W23 - Q1c, 07 marks)
9. Give the different types of topology. Explain each/any two in detail. (S24 - Q1c, 07 marks), (W22 - Q1c, 07 marks)

Unit 2: Communication Network

Repeated Questions:

1. **What is GIS? Explain its components.**
 - Appeared in: S22 (Q2c, 07 marks), S24 (Q2c OR, 07 marks), S23 (Q2b, 04 marks)
2. **Explain GIS and its application in civil engineering.**
 - Appeared in: S24 (Q2b, 04 marks), W22 (Q2b, 04 marks)
3. **Define RFID technology. Give its uses in construction.**
 - Appeared in: S24 (Q2c, 07 marks), W23 (Q2c, 07 marks)
4. **What is IP addressing? Give the detail explanation of class A, class B, and class C addresses.**
 - Appeared in: S22 (Q2c OR, 07 marks), W22 (Q2c OR, 07 marks)

Other Important Questions:

5. Write a short note on RFID technology. (S23 - Q1c, 07 marks)
6. Write a note on RFID technology. (W22 - Q3b OR, 04 marks)
7. What are the basics and importance of Firewall? (W23 - Q2b, 04 marks)
8. Write a short note on 'Cloud Technology'. (W23 - Q2c OR, 07 marks)
9. Give advantages and disadvantages of cloud technology. (S23 - Q2c, 07 marks)
10. Justify the statement: "Cloud computing is an emerging area of infrastructure development."
(S23 - Q2c OR, 07 marks)

Unit 3: Storage and Servers

Repeated Questions:

1. **Differentiate between Primary and Secondary storage.**
 - Appeared in: S22 (Q3b, 04 marks), S24 (Q3b OR, 04 marks), S23 (Q3b, 04 marks), W23 (Q3b OR, 04 marks)
2. **Briefly explain the concept of a Data center.**
 - Appeared in: S24 (Q3a, 03 marks), W23 (Q3a OR, 03 marks), S23 (Q3a, 03 marks)

Other Important Questions:

3. Briefly explain types of primary storage and secondary storage. (W22 - Q2c, 07 marks)

Unit 4: Software and Applications

Repeated Questions:

1. **What are the roles of ERP in the CRM?**
 - Appeared in: S22 (Q3a, 03 marks), S24 (Q3a OR, 03 marks), S23 (Q3a OR, 03 marks), W22 (Q3b, 04 marks)
2. **Write a short note on Operating Systems.**
 - Appeared in: S22 (Q3a OR, 03 marks), S24 (Q3b, 04 marks), S23 (Q3b OR, 04 marks), W22 (Q3a OR, 03 marks)
3. **Differentiate between Software-as-a-Service (SaaS) and Platform-as-a-Service (PaaS).**
 - Appeared in: S22 (Q3c OR, 07 marks), S24 (Q3c, 07 marks), S23 (Q3c, 07 marks), W22 (Q3c OR, 07 marks)
4. **Explain the term cloud computing. Explain the concept of SaaS in detail.**
 - Appeared in: W22 (Q3c, 07 marks), W23 (Q3c, 07 marks)

Other Important Questions:

5. Explain term cloud computing? Explain the concept PaaS in detail. (S22 - Q3c, 07 marks)
6. Explain PaaS in detail and explain the roles of ERP in the CRM. (W23 - Q3c OR, 07 marks)
7. Explain term cloud computing? Explain the concept IaaS in detail. (S24 - Q3c OR, 07 marks)
8. What is IaaS? Give the role of IaaS in cloud computing. (S23 - Q3c OR, 07 marks)

Unit 5: Introduction to Smart Infrastructure

Repeated Questions:

1. **Enlist various types of sensors. Explain any two/three in detail.**
 - Appeared in: S24 (Q4c, 07 marks), W22 (Q4c OR, 07 marks), S23 (Q4c, 07 marks)
2. **What is a sensor? Briefly explain its various types.**
 - Appeared in: W23 (Q4a, 03 marks), W22 (Q4a OR, 03 marks)
3. **Explain the concept of Smart Home.**
 - Appeared in: S24 (Q4a, 03 marks), W22 (Q4c, 07 marks), S23 (Q4c OR, 07 marks)
4. **Explain the terms: Smart Security, Smart Mobility, and Smart Sanitation.**
 - Appeared in: S22 (Q4a, 03 marks), S24 (Q4a OR, 03 marks)
5. **Explain smart public safety and smart sanitation.**
 - Appeared in: S24 (Q4b, 04 marks), W22 (Q4b, 04 marks)
6. **What is IoT? How is it useful in the field of Civil Engineering? / Give the role/application of IoT in Civil Engineering.**
 - Appeared in: S22 (Q4c, 07 marks), S24 (Q4b OR, 04 marks), W23 (Q4a OR, 03 marks), S23 (Q4b, 04 marks), W22 (Q4b OR, 04 marks)
7. **Justify the statement: “IoT – The emerging technology in the field of Civil Engineering.”**
 - Appeared in: S22 (Q4a OR, 03 marks), W22 (Q4a, 03 marks)

Other Important Questions:

8. Define Internet of Things. How it plays an important role for Smart home. (S22 - Q4c, 07 marks)
9. Explain the term Smart Home. How Smart Mobility and Smart Public Safety are helpful for smart homes. (S24 - Q4c OR, 07 marks), (S23 - Q4c OR, 07 marks)
10. Explain the concept of Smart meter. How it can be useful explain it in detail. (W23 - Q4c, 07 marks)
11. Explain in detail about Smart Public Safety. Briefly explain Smart Security and Surveillance. (W23 - Q4c OR, 07 marks)
12. Briefly explain smart security. (S23 - Q4a, 03 marks)
13. Briefly explain smart sanitation. (S23 - Q4a OR, 03 marks)
14. Explain the following terms: Moisture sensor, Tilt sensor. (W23 - Q4b, 04 marks)
15. Explain the following terms: Smoke sensor, Pressure sensor. (W23 - Q4b OR, 04 marks)
16. Explain following terms: Temperature Sensor, Pressure Sensor. (S23 - Q4b OR, 04 marks)
17. Explain how a sensor works. (S24 - Q4b OR, 04 marks)

Unit 6: Introduction to Virtualization

Repeated Questions:

1. **Explain the concepts of a Virtual Machine.**
 - Appeared in: S22 (Q5a, 03 marks), S24 (Q5b OR, 04 marks), S23 (Q5a, 03 marks)
2. **Define virtualization. Explain para-virtualization.**
 - Appeared in: S22 (Q5a OR, 03 marks), S24 (Q5a OR, 03 marks), S23 (Q5b OR, 04 marks), W22 (Q5b OR, 04 marks)
3. **Explain briefly Para-virtualization.**
 - Appeared in: S24 (Q5a OR, 03 marks), W23 (Q5b, 04 marks)

Other Important Questions:

4. Define Hypervisor and Operating System level virtualization. (W23 - Q5a OR, 03 marks)
5. Explain operating system level virtualization. (S24 - Q5a, 03 marks)
6. Explain briefly Para-Virtualization and Hardware level-Virtualization. (W23 - Q5b, 04 marks)
7. Briefly explain hardware-level virtualization. (S23 - Q5b, 04 marks)
8. Explain the importance of a virtual machine. (S23 - Q5a, 03 marks), (W22 - Q5b, 04 marks)

Unit 7: AR-VR Technology for Development

Repeated Questions:

1. **Give the advantages and disadvantages of AR-VR technology.**
 - Appeared in: S22 (Q5b, 04 marks), S24 (Q5b, 04 marks), W23 (Q5b OR, 04 marks)
2. **Differentiate between Augmented Reality (AR) & Virtual Reality (VR). / Differentiate between Virtual reality & Augmented reality.**
 - Appeared in: S22 (Q5c, 07 marks), S24 (Q5c, 07 marks), W22 (Q5c, 07 marks)
3. **Write a short note on the Use of Augmented Reality (AR) in navigation.**
 - Appeared in: S22 (Q5c OR, 07 marks), S24 (Q5c OR, 07 marks), S23 (Q5c, 07 marks), W22 (Q5c OR, 07 marks)

Other Important Questions:

4. Justify the statement: “AR and VR, the technology of the future”. (W23 - Q5a, 03 marks)
5. Justify the statement – “AR and VR technologies are a new key feature in civil engineering.” (W22 - Q5a, 03 marks)
6. Write a short note on Augmented Reality (AR) in Search Engine. (W23 - Q5c, 07 marks)
7. Briefly explain AR in search engine. (S23 - Q5a OR, 03 marks)
8. Explain the concept of Virtual Machine. Explain the feature of Augmented Reality & Virtual Reality in the construction industry. (W23 - Q5c OR, 07 marks)
9. Explain VR technology. Give its application in civil engineering. (S23 - Q5c OR, 07 marks)
10. Give the advantages and disadvantages of Augmented Reality (AR). (W22 - Q5a OR, 03 marks)
11. Define Augmented reality and virtual reality. Write a short note on the application of such technology in navigation. (W22 - Q5c OR, 07 marks)
