



KINGS

COLLEGE OF ENGINEERING

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING



QUESTION BANK

SUBJECT CODE: CS1451

YEAR : IV

SUBJECT NAME: NETWORK PROTOCOLS

SEM : VIII

Unit-1

FRAME RELAY AND ISDN

PART- A (2 marks)

1. Define frame relay.
2. What are advantage and disadvantage of frame relay?
3. Lists the applications of frame relay.
4. What are the two planes in frame relay protocol architecture?
5. What are the stages involved in Data transfer data transfer?
6. How many messages are need to establish a connection in frame relay?
7. Define ISDN.
8. List out the some ISDN Services.
9. Define digital pipe.
10. What are the two principal standards for bit pipe?
11. What are the Objectives of ISDN?
12. What are the four reference points defined by CCITT?
13. Which of the three channels are used to construct the access link?
14. How many connections can be set over B channel?
- 15 Which of the three formats are used as a common for all messages?
16. Write the two services of LAPD?
17. Draw the LAPF.

PART-B (16 marks)

1. a. Draw and Explain in detail about Frame Relay Protocol Architecture. (10)
b. Difference between frame relay and packet switching network. (6)
2. a. Discuss in detail about the call control alternatives. (8)
b. Explain in detail about the two types of logical connections. (8)
3. a. Comparison of X.25 and frame relay protocol stacks. (6)
b. Explain in detail about user data transfer in frame relay. (10)
4. a. List and explain the objectives of ISDN. (8)
b. Draw and explain the block diagram of ISDN functions. (8)
5. Explain in detail about the different types of ISDN channels. (16)
6. Draw and explain the ISDN protocols. (16)

UNIT-2
ATM AND BISDN
PART-A (2 marks)

1. Define Asynchronous transmission.
2. Define Asynchronous transfer mode (ATM)
3. Define ATM adaptation layer (AAL).
4. What is meant by VCC?
5. Define Virtual Path Connection.
6. What are the advantages of Virtual path?
7. List out the characteristics of Virtual Channel.
8. Define ATM cells.
9. What are Advantages of ATM cells?
10. What is meant by CLP?
11. List out the AAL Services.
12. Define convergence sub layer.
13. Why segmentation and reassembly sub layer is used?
14. Define B-ISDN.
15. What is meant by Management Plane?
16. Define VPI.
17. Define error-protection.

PART-B (16 marks)

1. a. Draw and explain the architecture of ATM protocol. (8)
b. Discuss in detail about ATM logical connections. (8)
2. Draw and explain the ATM cell format. (16)
3. Explain in detail about the following.
 - a. Cell based physical layer with state transition diagram (8)
 - b. SDH Based physical layer. (8)
4. a. Discuss in detail about different types of services provided by AAL. (8)
b. Some of the congestion-control schemes are inadequate for ATM Networks. Why? (8)
5. Discuss in detail about the different type of traffic control functions. (16)
6. Draw and explain the functional architecture of B-ISDN. (16)

UNIT-3
SECURITY PROTOCOLS
PART-A (2 marks)

1. Define Encryption
2. Specify the components of encryption algorithm
3. Define confidentiality and authentication Confidentiality.
4. Define Authentication.
5. Define cryptography.
6. What is an elliptic curve?
7. What is message authentication?
8. Define the classes of message authentication function.

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9. What are the different types of web security threats?
10. List and briefly define the principal categories of SET participants.
11. What is meant by SSL?
12. Draw the protocol stack for SSL.
13. What is meant by Change Cipher Spec Protocol?
14. What is the use of Handshake protocol?
15. What is meant by Secure Electronic Transaction?
16. What is a dual signature and what is its purpose?
17. What steps are involved in the SSL Record Protocol transmission?
18. What services are provided by the SSL Record Protocol?
19. What protocols comprise SSL?

PART-B(16 marks)

1. Explain simplified DES with example. (16)
2. Explain Data Encryption Standard (DES) in detail. (16)
3. Explain RSA algorithm in detail with an example (16)
4. Briefly explain the idea behind Elliptic Curve Cryptosystem. (16)
5. Explain in detail the operation of Secure Socket Layer in detail. (16)
6. Explain Secure Electronic transaction with neat diagram. (16)

UNIT-4

NETWORK MANAGEMENT FUNDAMENTALS

PART-A(2 marks)

1. Define fault management.
2. What is meant by accounting management?
3. Define SNMP.
4. Define MIB.
5. List out the requirements of network management.
6. Define polling.
7. Define event reporting.
8. Define availability.
9. What is meant by accuracy?
10. Difference between response time and throughput.
11. What are the two time sequences for online transactions?
12. What are the three components of performance monitoring?
13. What is meant by configuration management?
14. Define configuration information.
15. Give the examples for physical and logical resources.
16. Define relationship.
17. Explain private MIBs.

PART- B(16 marks)

1. Explain in detail about various requirements of network management. (16)
2. a. Draw and explain the network monitoring configurations. (10)
b. give the shorts on polling and event reporting. (6)

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3. Explain the following
 - a. Availability (6)
 - b. Response time (6)
 - c. Utilization (4)
4. a. Discuss in detail about the problems of fault monitoring and what are all the tests used in fault monitoring system (10)
 - b. Briefly discuss about accounting monitoring. (6)
5. a. Define security threat and explain in detail about different types of threats. (8)
 - b. Discuss in detail about three categories of security management. (8)
6. a) Explain the data types in UNIVERSAL class of ASN.1 for SNMP MIB (8)
 - b) Explain the data types in Application class of ASN.1 for SNMP MIB (8)

UNIT-5 **NETWORK MANAGEMENT PROTOCOLS** **PART-A (2 marks)**

1. Define RMON.
2. What are the design goals of RMON?
3. Explain RMON MIB.
4. What are the advantages of SNMPv2?
5. Explain SNMPv3.
6. What are the disadvantages of SNMPv1/v2?
7. Where does RMON used in network?
8. List all the data types of SNMPV2.
9. Explain PDU handling documents.

PART-B (16 marks)

1. Explain the architecture of SNMPV3 with neat diagram. (16)
2. i) Compare SNMPV2 and SNMPV3 (6)
 - ii) Discuss about MIB (6)
 - iii) Write note on RMON (4)
3. Explain the architecture of SNMP entity and traditional SNMP manager, As specified in RFC2271. (16)
4. Explain in detail about the design goals for development of SNMP architecture. (10)