Reg. No. : | E | N | G | G | T | R | E | E | . | C | O | M |

Question Paper Code : 30141

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2023.

Fourth Semester

Electronics and Communication Engineering

EC 3401 – NETWORKS AND SECURITY

(Regulations 2021)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. State the purpose of layering in networks.
2. List out the issue in data link layer.
3. Compare inter domain and intra domain routing protocols.
4. Give an IPv6 datagram format.
5. What are the advantages of using UDP over TCP?
6. What are the techniques to improve QoS?
7. What are the types of attacks on encrypted message?
8. Define weak collision property of a hash function.
9. What are the types of hardware Trojans?
10. What is KYC in blockchain?

PART B — (5 × 13 = 65 marks)

11. (a) Explain in detail about TCP/IP network models.

Or

(b) Describe the basic concepts of error detection and error correction.

12. (a) Summarize the basic principles of network protocols.

Or

(b) Discuss in detail about transition from IPv4 and IPv6.

13. (a) Illustrate the basic concepts of congestion control and avoidance.

Or

(b) Explain in detail about client-server programming.

14. (a) Draw an OSI security architecture and explain in detail.

Or

(b) Write a detailed notes on RSA algorithm.

15. (a) Discuss in detail about hardware security.

Or

(b) Describe the basic principles of channel attacks.

PART C — (1 × 15 = 15 marks)

16. (a) Is it possible to design and implement a protocol format which suits for both IPv4 and IPv6. How do you proceed with? What are the technical challenges and assumptions you have to make? How this adapts to both the versions, in case an application demands. Is there any such systems you come across? Why they have not been recommended or recommended. In both the cases, give proper justifications.

Or

(b) How hardware attacks such as channel and Physical attacks on network components disturbs the network performance. Suggest and comment on that if such systems are replaced with wireless scenario, can these problems on network performance be solved. If so, why people are still use lot of hardware components for laying the networks. What are the different possible arguments and solutions for the posed situations?

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