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Question Paper Code : 40916

M.E./M.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2018.

Second Semester

Communication Systems

NC 5291 — COMMUNICATION NETWORK SECURITY

(Common to M.E. Communication and Networking)

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the key principles of security?
2. State Fermat's theorem.
3. What is DES?
4. Is Diffie Hellman symmetric or asymmetric?
5. What does MAC provide?
6. What is the function of a digital certificate?
7. Distinguish between entity authentication and message authentication.
8. What is Radius Security?
9. What is IPSec used for?
10. What is S MIME for email?

PART B — (5 × 13 = 65 marks)

11. (a) Explain about Security Services in detail.

Or

- (b) (i) Distinguish between Plaintext and Ciphertext. (6)
(ii) What about the general case of the quadratic congruence equation of the following form? $\alpha y^2 + \beta y + \gamma \equiv 0 \pmod{p}$. (7)

12. (a) Give a notes on RSA Algorithm with example.

Or

- (b) Compare DES and AES.

13. (a) Discuss Cryptography Hash functions with its applications.

Or

- (b) Explicate in detail about Digital Signature Algorithm.

14. (a) Give a notes on :

- (i) Methods of generating the OTP (6)
(ii) Methods of delivering the OTP. (7)

Or

- (b) What is Password Protection and the vulnerability of passwords? Summarize.

15. (a) Discuss SSL Architecture in detail.

Or

- (b) Explain in detail about the layers of Computer security.

PART C — (1 × 15 = 15 marks)

16. (a) Analyze the different types of firewalls.

Or

- (b) Explain two basic building blocks of classical encryption techniques.