YBSC Sem-VI 2016-2017

ta Communication Networking

ecurity - II   [Time: 2½ Hours]

Q.P. Code : 03206

[Marks : 75]

Please check whether you have got the right question paper.

N.B: 1. All questions are compulsory.
        2. Figures to the right indicate marks.
        3. Illustrations, in-depth answers and diagrams will be appreciated.
        4. Mixing of sub-questions is not allowed.

1. Attempt the following (any THREE):   (15)
    (A) Change the following IPv4 addresses from dotted-decimal notation to binary notation.
        • 111.56.45.78
        • 221.34.7.82
    (B) A block of addresses is granted to a small organization. We know that one of the addresses is
        205.16.37.39/28. Find the following
        • First address in the block,
        • Last address in the block,
        • Total number of address
    (C) Discuss the working of Dynamic Host Configuration Protocol.
    (D) What are routing protocols? Explain distance vector routing with an example.
    (E) How Bootstrap Protocol (BOOTP) will work, when client and server are on different network.
    (F) Discuss direct and indirect delivery with an example.

2. Attempt the following (any THREE):   (15)
    (A) Give on important differentiation point between UDP and TCP.
    (B) Explain with an example, Connection establishment using three-way handshaking
    (C) Write a short note on Backpressure method for alleviating congestion
    (D) Define Quality of Service. Discuss in brief different flow characteristics.
    (E) What is domain name space? Discuss hierarchy of name space with an example.
    (F) How one can transfer a file using FTP? Explain with an example.

3. Attempt the following (any THREE):   (15)
    (A) Define computer security. List and explain three key objective of computer security.
    (B) What is security attack? Define passive attacks and active attacks. Explain active attack with
        an example.
    (C) Describe in brief any five types of malicious software.
    (D) What is Distributed Denial of Service attack? Discuss DDoS attack description.
    (E) List and discuss characteristics and limitations of firewall.
    (F) Describe different filtering rule of Packet Filtering Firewall.

4. Attempt the following (any THREE):   (15)
    (A) Discuss the concept of symmetric key cipher for encryption and decryption.
    (B) Explain with an example additive cipher and multiplicative cipher.
    (C) Discuss the general structure of DES in detail.
    (D) How Asymmetric key cryptography works during encryption and decryption of plaintext.
    (E) Define pigeonhole principle. Explain the birthday problem.
    (F) How Pretty Good Privacy (PGP) Protocol works with e-mail to provide privacy, integrity and
        authentication.

Q 5. Attempt the following (any THREE):

(A) Find the error, if any, in the following IPv4 addresses and give a reason for the error.
233.45.278.23
344.43.23.12

(B) Write format of an electronic mail with an example.

(C) Discuss the remote logging facility of Telnet.

(D) Write a short note on demilitarized zone (DMZ) network.

(E) Define intruder. List and discuss different classes of intruders.

(F) Write a short note on IPSec.