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B.E./B.Tech. (Full-Time) DEGREE END SEMESTER EXAMINATIONS (May 2013)
ELECTRICAL AND ELECTRONICS ENGINEERING BRANCH

Sixth Semester
EE 9354 - Data Communication and Computer Networks [R 2008]

Time: 3 Hrs. **Max. Marks: 100**

Answer ALL Questions

PART - A [10 x 2 = 20]

1. Briefly explain the three different phases of TCP connection.
2. What do you mean by width of the polynomial?
3. Compare and contrast: UDP and IP.
4. What is selective flooding?
5. Give the port numbers used for FTP, HTTP, Telnet and SMTP.
6. Differentiate between cc and bcc with respect to RFC 822.
7. Define Web Services.
8. What are the two categories of top level domains
9. Briefly explain the concept of expansion permutation and permuted choices.
10. How rail fence cipher works?

PART - B [5 x 16 = 80]

11. a] State the ultimate goal of transport layer. [2]
    b] Explain the services provided by transport layer. [5]
    c] Write a note on transport service primitives. [9]

12. a] i) A bit stream 10011101 is transmitted using the standard CRC method. The generator polynomial is $x^3 + 1$. Show the actual bit string transmitted. Suppose the third bit from the left is inverted during transmission. Show that this error is detected at the receiver's end. [14]
    ii) Why data link protocols always put the CRC in a trailer? [2]

    Or

    b] Write a note on TCP/IP model, Explain the process of encapsulation with a neat diagram and compare it with OSI model. [16]

13. a] i) Explain the working of link state routing. [14]
    ii) What is the advantage of Hierarchical routing? [2]

    Or

    b] Write a note on internet control protocols. [16]

14. a] i) Explain the concept of DNS name space in detail. [8]
    ii) Write a note on web services. [8]

    Or

    b] i) What an e-mail system can do and how they are organized? [8]
    ii) Discuss about the user agent in an e-mail system. [8]

15. a] i) Explain RSA algorithm with a suitable example [8]
    ii) Give the algorithm for computing a^b mod n. Use it to find 11^{23} mod 187. [8]

    Or

    b] i) With a neat diagram explain the operations involved in a single round of Data Encryption Standard. [8]
    ii) Construct Playfair cipher table with '**electrical**' as the key. Use it to encrypt the message "**all the best for your examinations.**" [8]

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