Roll No. ....

105804

May 2019

B.Tech. VIII Semester Examination (Under CBS)
COMPUTER NETWORKS
(EIC-306)

Time : 3 Hours]   [Max. Marks : 60

PART–A

Contains *ten* Compulsory question and each carry 2 marks.

1. (a) Why flow and error control is used at two different layers ?

    (b) Why minimum of three satellites is needed to trace a point on the earth surface ?

    (c) Which error is not detected by two-dimensional parity check ?

    (d) Why slotted ALOHA has more efficiency than pure ALOHA ?

    (e) Differentiate between choke packet and implicit signalling congestion control mechanism.

    (f) What is two node loop instability problem and how it can be rectified ?

    (g) Name the network security services.

    (h) How many host can be connected in class B and C networks ?

(i) Why quantization matrix is used in JPEG compression ?

(j) Which protocol is used for securing email packet ?

PART-B

This section contains 6 questions, out of which *four* are to be done.

2. Differentiate between OSI and TCP/IP model? Give brief description of various layers of OSI Model? (10)

3. (a) Explain CSMA/ CA protocol in detail. (5)

   (b) Differentiate between slotted Aloha and CSMA protocol. A slotted Aloha networks transmits 400 bit frames on a shared channel of 400 Kbps. What is ifte throughput of the system if there are 5 nodes and one system produces 2000 frames/sec. (5)

4. (a) Give various types of transmission impairment in detail. Also give attenuation *vs* frequency graphs for coaxial cables. (5)

   (b) Explain how a node comes to know about congestion in the network. Also, Explain various open loop congestion control mechanisms in detail. (5)

5. (a) An ISP is granted a block of addresses starting with 150.80.0.0/16. The ISP wants to distribute these blocks to 2600 customers as follows :

   (i) The first group has 200 medium size businesses; each needs 16 address.

(ii) The second group has 400 small businesses; each needs 8 addresses.

(iii) The third group has 2000 house hold; each needs 4 addresses.

Design the sub-blocks and give the slash notation for each sub-block. Find out how many addresses are still available after these allocations? (5)

(b) Explain various network security requirement and ways to achieve them. (5)

6. Explain JPEG and MPEG Compression in detail. (10)

7. Write short note on any *two* :
   (a) FTP.
   (b) RPC.
   (c) SNMP. (5+5)

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