BICS-017

B.Tech. – VIEP – COMPUTER SCIENCE AND ENGINEERING (BTCSVI)

Term-End Examination

⊓⊓ᴈ8ᴈ   December, 2016

BICS-017 : COMPUTER NETWORKS

Time : 3 hours   *Maximum Marks : 70*

Note : *Attempt any seven questions. All questions carry equal marks.*

1. (a) Why do HTTP, SMTP and POP protocols run on top of TCP rather than UDP ?   **4**

    (b) What is the difference between persistent HTTP with pipelining and persistent HTTP without pipelining ? Which of the two is used by HTTP/1·1 ?   **6**

2. (a) How does DNS work ? Briefly explain.   **6**

    (b) Give two examples of delay sensitive but loss tolerant multimedia applications over the Internet.   **4**

3. How does TCP's congestion control algorithm operate ? Explain with the help of a diagram.   **10**

4. What is the purpose of a distance table in the distance vector routing protocol ? Write the distance vector routing algorithm and explain the algorithm.   **10**

5. How does OSPF operate as an interior gateway routing protocol ? Explain with the help of a diagram. *10*

6. Draw a TCP segment format and describe the purpose of the following fields : *10*

   (a) Sequence number

   (b) Header length

   (c) SYN flag

   (d) Window size

7. (a) How many networks can each IP address class A, B and C have ? Also find the number of hosts per network in each given address class. *6*

   (b) Define the following terms : *4*

      (i) Packet loss

      (ii) Network bandwidth

8. (a) How does a public key system operate ? Give all the relevant steps. *5*

   (b) What is the man-in-the-middle attack ? Can this attack occur when symmetric keys are used ? *5*

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