| BICSE-006 |

DIPLOMA – VIEP – COMPUTER SCIENCE AND ENGINEERING (DCSVI)

Term-End Examination

June, 2016

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BICSE-006 : ELECTIVE-COMPUTER NETWORKS

Time : 2 hours   *Maximum Marks : 70*

Note : Answer *five* questions in all. Question no. *1* is *compulsory*. All questions carry equal marks.

1. (a) Derive throughput expressions for slotted Aloha.   7

    (b) How does TCP's congestion control mechanism work ? Explain with an illustration.   7

2. (a) What happens in ethernet, when packets face collision multiple times ? Explain the algorithm.   7

    (b) What is count to infinity problem in distance vector routing ? Explain.   7

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3. (a) Explain the meaning of the following TCP flags used in TCP header :   *6*
   (i) URG
   (ii) SYN
   (iii) PSH

(b) Differentiate between a primary and a secondary DNS server.   *6*

(c) Find the error, if any, in the following IPv4 addresses   *2*
   (i) 110.60.030.70
   (ii) 30.11100001.54.76

4. (a) What is hidden station problem ? How is hidden station problem resolved in wireless LANs ? Discuss in detail.   *10*

(b) What is the minimum and maximum size of a TCP header ?   *4*

5. (a) How is Dijkstra's algorithm used to determine the shortest path between two nodes in a network ? Explain the relevant steps.   *10*

(b) Why are packets fragmented in Internet protocols ? Give reasons. *4*

6. (a) What is the purpose of ICMP ? What kind of network information does it carry ? Explain. *4*

(b) What is the purpose of MIME protocol ? Explain. *5*

(c) How is connection established in 3-way handshaking ? Explain with the help of a diagram. *5*

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