



SB-4315

M. C. A. (Sem. II) Examination
March / April - 2011
Paper - 205 : Computer Networks

Time : 3 Hours]

[Total Marks : 70

Instruction :

नीचे दृष्टावेक निशानीवाणी विगतो उत्तरवही पर अवश्य कभवी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
<input type="text" value="M. C. A. (SEM. 2)"/>	<input type="text"/>
Name of the Subject :	<input type="text"/>
<input type="text" value="205 : COMPUTER NETWORKS"/>	<input type="text"/>
Subject Code No. : <input type="text" value="4"/> <input type="text" value="3"/> <input type="text" value="1"/> <input type="text" value="5"/>	<input type="text" value="Student's Signature"/>
Section No. (1, 2,.....) : <input type="text" value="NIL"/>	

- 1 Do as directed : 14
- (a) Draw OSI model. Discuss functionalities provided by each layer. 7
 - (b) Define : flow control and error control. Discuss how flow-control and error control at transport layer and data-link layer differs ? 7
- OR**
- (b) Describe : Services provided by the Data link layer. Discuss character count method with its advantages and disadvantages. 7
- 2 Attempt the following (ANY TWO) : 14
- (a) Discuss CRC error detection method. 7
 - (b) Compare Datagram to the Virtual Circuit Networks with respect to :
Circuit set up; addressing; routing; router failure; Quality of Service. 7
 - (c) 3 packet switching networks each contain n nodes. The first network has a star topology with a central switch, the second is a (bidirectional) ring, and the third is fully interconnected, with a wire from every node to every other node. What are the best, average, and worst case transmission paths in hops ? 7

- 3** Write notes for the followings (ANY TWO) : **14**
- (a) Frequency Division Multiplexing
 - (b) Flooding
 - (c) Network Transmission Media.
- 4** Attempt the following : **14**
- (a) What are the passive star and an active repeater in a fiber network ? **2**
 - (b) A bit string, 011110111110111110, needs to be transmitted at the data link layer. What is the string actually transmitted after bit stuffing. **2**
 - (c) The following data fragment occurs in the middle of a data stream for which the byte stuffing algorithm is used : A B ESC C ESC FLAG FLAG D
What is the output after stuffing ? **2**
 - (d) Distinguish between secret-key and public-key algorithm. Write the 3 important requirements to be satisfied by encryption and decryption methods in public-key algorithm. **8**
- OR**
- (d) Write a note on IP addresses and its classes. **8**
- 5** Attempt any two from the following : **14**
- (a) Describe IEEE 802.3 standard
 - (b) Explain switching techniques
 - (c) Discuss about various inter-network connecting devices.