TRIBHUVAN UNIVERSITY
FACULTY OF MANAGEMENT
Office of the Dean

September 2019

Full Marks: 40
Pass Marks: 20
Time: 2 hrs.

BIM / Second Semester / ITC 214 / IT 214: Data Communication and Computer Network

Candidates are required to answer all the questions in their own words as far as practicable. The figures in the margin indicate the full marks.

Group "A"

1. ***Brief Answer questions:*** *[10 × 1 = 10]*

   i. How the Attenuation problem is overcome in Digital Signal Transmission?
   ii. Name two devices which function at the Physical Layer.
   iii. What do you mean by connection Oriented and Connection Less Services?
   iv. What is the advantage of Contention Based approach?
   v. Why Non-Adaptive routing algorithm is secure and predictive?
   vi. Write down the fixed highest order bits for Class C, Class D and Class E IP addresses.
   vii. Why Buffering and Flow control are important elements of Transport Protocol?
   viii. Mention the advantage of IMAP over POP.
   ix. Explain any two advantage of ISDN.
   x. Explain any two Query message in ICMP.

Group "B"

Short Answer Questions: *[5 × 3 = 15]*

2. Illustrate and explain Basic Data Communication Model briefly.
3. If the channel capacity of a noiseless channel is 54 kbps and the bandwidth is 600 hz calculate the level of a signal.
4. If a message to be transmitted is 1011001010 with a polynomial generator $x^3 + 1$. Calculate the transmitted bits.
5. Compare Datagram approach and Virtual Circuit approach of Switching.
6. Explain three different approaches for solving the problem of packet duplication in Flooding Routing Algorithm.

Group "C"

Long Answer questions: *[3 × 5 = 15]*

7. Explain Access Control Protocol used in Ethernet based & wireless LAN.
8. There are four different department in an organization which have 100, 60, 25 and 20 numbers of hosts, perform subnetting if this organization owns CLASS C IP address 205.206.207.0 according to the department.
9. Explain TCP three way handshake process. Explain any three services provided by transport layer.

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