Total No. of Printed Pages:2

SUBJECT CODE NO:- P-182
FACULTY OF ENGINEERING AND TECHNOLOGY
S.E.(CSE/IT) Examination MAY/JUNE-2016
Computer Networks-I
(Revised)

[Time: Three Hours] **[Max Marks:80]**

"Please check whether you have got the right question paper."

N.B i) Question No.1 and 6 is compulsory.
ii) Attempt any two questions from Q.No.2 to Q.No.5 and Q.No.7 to Q.No.10 of each section.

Section A

Q.1 Attempt any five: 10

a) State different characteristics of data communication.
b) What is the difference between half duplex and full duplex transmission mode?
c) What is transmission impairment? Give its types.
d) Why we need to multiplex data? State the types of multiplexing techniques.
e) Define Burst Error.
f) Why we use switching?
g) Define block coding and give its purpose.
h) What is data rate? Give data rate for LAN.

Q.2 a) Why data communication is important? Explain the significance of it with example. 08
b) Explain frequency hopping spread spectrum. 07

Q.3 a) Explain layered architecture of OSI model with suitable diagram. 08
b) What is Hamming distance for each of the following code words? 07
i. d(10000 , 00000)
ii. d(10101 , 10000)
iii. d(11111 , 11111)
iv. d(000 , 000)

Q.4 a) Explain CRC in detail with the help of an example. 08
b) Explain Polar Line Coding Schemes. 07

Q.5 Write short note on (Any three) 15

a) Scrambling
b) Serial Transmission
c) STDM (Synchronous Time Division Multiplexing)
d) Circuit Switched Network
e) Error Detection

Section B

Q.6 Attempt any five : 10

a) Define I- persistent CSMA scheme.
b) In what environment it is necessary to have MAC for data communication.
c) In what way CDMA differ from FDMA?
d) A block of address is given one of the address 205.16.37.39/20. What is the first address in the block?
e) Define Roaming concept.
f) State the difference between Soft Handoff and Hard Handoff.
g) Change this IPV_4 address to binary notation : 111.56.45.78
h) What is Active Hub and Passive Hub?

Q.7 a) Explain CSMA/CD protocol in detail along with the flow chart. 08
b) What is NAT? How can NAT help in address depletion? Explain with diagram. 07

Q.8 a) Explain how the performance of CSMA/CD is better than ALOHA protocol. 08
b) Describe Cellular telephony in detail. 07

Q.9 a) Compare and contrast flow control and error control. 08
b) An ISP is granted a block of address starting with 190.100.0.0/16 (65, 536 address). The ISP needs to distribute these addresses to three group of customers as follows: 07

i. The first group has 64 customers; each needs 256 addresses.
ii. The second group has 128 customers each needs 128 addresses.
iii. The third group has 128 customers each needs 64 addresses.

Design the sub blocks and find out how many address are still available after these allocations.

Q.10 Write short note on. (Any three) 15

a) NAT
b) Router
c) IPV_6
d) Scatternet
e) CDMA