University of Sargodha

BS 3rd Term Examination 2015

Subject: Computer Science **Paper: Computer Communication & Network (CMP-2540)**

Time Allowed: 2:30 Hours **Maximum Marks: 80**

Objective Part Compulsory

Q. 1: Answer the following question briefly. **2×16 = 32**

1. What are two types of line configuration?
2. Why are protocols needed?
3. What is the difference between half-duplex and full-duplex transmission modes?
4. What type of addresses used in each of the following layers?
   a) Application b) Network c) Data-link
5. If there is a single path between the source host and destination host, do we need a router between the two hosts?
6. Distinguish between baseband transmission and broadband transmission.
7. Consider a noiseless channel with a bandwidth of 3000 Hz transmitting a signal with four signaling levels. What is the maximum bit rate?
8. Define scrambling and give its purpose.
9. Define digital to analog conversion.
10. Describe the goal of multiplexing?
11. How does sky propagation differ from line-of-sight propagation?
12. What is refraction?
13. What is the difference between third and fourth generation cellular wireless networks?
14. What is cyclic redundancy check?
15. How does single-bit error differ from burst error?
16. What is flow control? Where it is implemented in OSI model?

Subjective

Attempt any four (4) questions. **4×12 = 48**

Q. 2: Explain OSI model with functionalities of each layer.

Q. 3: Explain the various physical structures of networks with rest to architecture, speed, cost, expansion and reliability

Q 4: Discuss transmission impairments in detail.

Q. 5: a) Explain the circuit switching and packet switching
b) Compare and contrast pulse code modulation and delta modulation

Q. 6: a) Explain the types of digital-to-analog conversion
b) List three different techniques in serial transmission and explain the differences.

Q. 7: a) What is multiplexing? Explain the categories of multiplexing.
b) Give the architecture of wireless lan.

University of Sargodha

BS(CS) 5th Term Exam 2015

Paper: Computer Communication and Networks (CMP330)

Time Allowed: 2:30 Hours **Session: 2013-2017** **Maximum Marks: 80**

Objective Part (Compulsory)

Q.No.1: Attempt all parts and each require answer 2 – 3 lines **(16*2=32)**

i. What is SNR and how it is important?
ii. Differentiate between TCP and UDP.
iii. What function does a modem perform?
iv. What is flow control and which layer is responsible for this?
v. What is routing?
vi. What is encryption?
vii. Define topology, list down the names of common topologies.
viii. What are the different modes of optical fiber?
ix. Why CRC is used in data communication?
x. What is attenuation?
xi. How twists in per unit length reduce the noise in twisted pair cable?
xii. Differentiate between TDM and FDM.
xiii. What is PPP?
xiv. What is DSL?
xv. Define protocol with example.
xvi. What is baud rate?

Subjective Part

Note: Attempt four out of six questions. **(4*12=48)**

Q.No.2 Describe the OSI model, write a paragraph describing the areas of function that each layer is responsible for.

Q.No.3 Describe the physical construction characteristics of the following transmission media.

- coaxial cable
- optical fiber

Q.No.4 *Describe network security issues in detail.*

Q.No.5 Briefly explain various phases involved in communication via virtual circuit switching. Compare it with packet switching.

Q.No.6 Describe LAN topologies along with pros and cons of each topology.

Q.No.7 Define Encoding and explain three digital encoding schemes and apply them on the string, 1100111.