Code No: 5404CZ

R17

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M. Tech II Semester Examinations, January - 2020
PRINCIPLES OF COMPUTER COMMUNICATIONS AND NETWORKS
(Common to CS, EPS, PE, PEED, CSE, PEES, CNIS)

Time: 3hrs   Max.Marks:75

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

5 × 5 Marks = 25

1.a)	Discuss about Interoperability and Security.	[5]
b)	What are different data transmission modes?	[5]
c)	Explain about SONET.	[5]
d)	Write short notes on medium access control sub-layer.	[5]
e)	Explain about Trans receivers and media converters.	[5]

PART - B

5 × 10 Marks = 50

2. Discuss in detail different types of Computer Networks with neat diagrams. [10]
OR
3. Explain the operation of Telephone System with diagram. [10]

4. What is multiplexing? Explain in detail about various types of multiplexing. [10]
OR
5. Discuss about the different Networking Models. [10]

6. Explain about Digital carrier systems. [10]
OR
7.a) Ten signals, each requiring 4000 Hz, are multiplexed on to a single channel using FDM. How much minimum bandwidth is required for the multiplexed channel? Assume that the guard bands are 400 Hz wide.
  b) If a binary signal is sent over a 3 KHz channel whose signal-to-noise ratio is 20 dB, what is the maximum achievable data rate? [6+4]

8. Explain the functions performed by Data link Layer and discuss services provided by it to Network Layer. [10]
OR
9. What is meant by CSMA? Discuss about CSMA/CD and CSMA/CA. [10]

10. Discuss about network interface cards and PC cards. [10]
OR
11. Discuss about the different types of switches that are used in networking. [10]

---oo0oo---