

Code: IT5T3

**III B.Tech - I Semester – Regular Examinations - December 2016**

**DATA COMMUNICATIONS AND COMPUTER  
NETWORKS  
(INFORMATION TECHNOLOGY)**

Duration: 3 hours

Max. Marks: 70

**PART – A**

Answer *all* the questions. All questions carry equal marks

11x 2 = 22 M

1.

- a) What is the importance of Layered Architecture?
- b) What is the advantage of twisting in twisted pair?  
Mention Applications of coaxial cable.
- c) What kind of errors is undetectable by checksum?
- d) Distinguish between forward error correction and error correction by retransmission.
- e) Define Piggy backing.
- f) What is meant by internetworking?
- g) What is the purpose of BGP?
- h) Define forwarding.
- i) What is importance by UDP?
- j) Why three way handshaking is required?
- k) Bring out the advantage of Back pressure in congestion control.

## PART – B

Answer any **THREE** questions. All questions carry equal marks. 16 x 3 = 48 M

2. a) Briefly explain the services of OSI layered model. Bring out difference between OSI model and TCP / IP model. 8 M
  
- b) Explain the difference between Manchester and Differential Manchester. Encode the following using above two mechanisms. 100001000000001. 8 M
  
3. a) Discuss the mechanism of Simplest and Stop & wait flow control with neat sketches. 8 M
  
- b) Explain about Fixed size framing & Variable size framing mechanisms. 8 M
  
4. a) Explain in detail Classless addressing of IPv4. 8 M
  
- b) Explain IPv6 packet format. 8 M
  
5. a) Explain in detail Distance vector Routing. 8 M
  
- b) Bring out the differences between Uni-cast, Multicast and Broadcast Routing. 8 M

6. a) What are the Services of transport layer? Explain User datagram protocol. 8 M
- b) Explain Open Loop congestion control policy. 8 M