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**ANNA UNIVERSITY, COLLEGE OF ENGINEERING**  
**B.E DEGREE EXAMINATIONS, Nov/Dec 2013**  
**SEMESTER VI**

**IT9026-TCP/IP DESIGN AND IMPLEMENTATION**

**Time: 3Hrs**

**Max.Marks: 100**

**Answer all questions**  
**PART A (10 x 2 = 20 Marks)**

1. List down the features of IPv6.
2. What is CIDR and state the need for subnet mask.
3. State the need for Timers in TCP module.
4. How TCP initiates retransmission of data?
5. When reassembly of fragments will occur in a network?
6. What is the role of IGMP?
7. Specify the contents of a TCB.
8. List down the various states of TCP FSM.
9. What is the need for adaptive retransmission?
10. Compare flow control with congestion control in a network.

**PART B ( 5 x 16 = 80 Marks)**

11. a) Discuss in detail about the functionalities of various Internetworking devices in each layer of the OSI architecture. (12)

b) Write a brief note on RARP. (4)

12. a) Draw the sketch of TCP header and explain the various fields in detail. (16)

Or

- b) i) Write notes on Interactive data flow of TCP in detail. (8)  
ii) Explain the various states involved in TCP-connection Establishment (8)

13. Explain how fragmentation and reassembly is carried out in networks during data transmission in detail? (16)

Or

b) i) Explain in detail about any two routing algorithms in networks. With suitable example show the behavior of your chosen algorithm. (16)

14. a) Write down the data structure for ensuring mutual exclusion in TCP (16)

Or

- b) Write notes on
- i. TCB (8)
  - ii. TCP output processing. (8)

15. a) Write the routines for TCP timer deletion and insertion. (16)

Or

b) Explain the various TCP congestion control mechanisms in detail. (16)