

(Based on remember)

**Answer any five Questions.**

- 1) Write short notes on the following:
  - (a) Router
  - (b) Digital Signature
- 2) Differentiate between the following:
  - (a) Optical fiber and copper wire
  - (b) Serial and parallel transmission
- 3)(a) What is MAN? How does it differ from LANs and WANs?
  - (b) Compare tree topology with star topology.
- 4)(a) What do you understand by Asynchronous and Synchronous transmission? Explain with suitable example
  - (b) Explain the need of multiplexing in data communication
- 5) Explain various data encoding schemes.
- 6)(a) What are the services provided by data link layer to Network layer? Illustrate them.
  - (b) Compare HTML and XML.
- 7) Write short notes on:
  - (a) Document Type Definition
  - (b) URL