

Duration: 3 Hrs.

Total Marks: 80

N.B. : 1. Question No. 1 is Compulsory.

2. Attempt **any three** questions from remaining **five** questions.
3. Figure to the right indicates full marks.

**Q.1 a) What is framing? Explain in short different framing methods.**

- b) Discuss design issues for various layers.
- c) Compare TCP/IP and OSI reference models.
- d) Explain various error-reporting messages in Interned Control Message Protocol.

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**Q.2 a) What is congestion control? Explain various congestion prevention policies.**

- b) Explain working of simple mail transfer protocol (SMTP).

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**Q.3 a) Explain in detail IPv4 header format with diagram.**

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- b) Explain CSMA protocols. How are collisions handled in CSMA/CD?

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**Q.4 a) Explain working of link state routing algorithm. Explain content and requirements of link state packets.**

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- b) Explain congestion control approaches in TCP.

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**Q.5 a) Explain File Transfer Protocol (FTP).**

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- b) Explain sliding window protocol using Go Back-N technique.

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**Q. 6 Write short notes on following.**

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- a) Simple Network Management Protocol (SNMP)
- b) Address Resolution Protocol (ARP)
- c) Bluetooth
- d) Berkeley Sockets

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