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M.E. DEGREE EXAMINATION, MAY/JUNE 2006.

Applied Electronics/Communication systems

Elective

AX 039 — INTERNETWORKING MULTIMEDIA

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Characterize digital sound.

2. List two coding techniques. Give an application for each.

3. Define broadband services.

4. Mention two features by which IPV4 and IPV6 differ.

5. Give the format of IP multicast address. Which protocol does manage the group communication in IP networks?

6. List the features of TCP that disqualify TCP for use in real time applications.

7. List a few tools available for creating multimedia applications.

8. What is the storage required to store 10 seconds of stereo sound sampled at the rate of 16,000 samples per second and 16 bits per sample?

9. What is synchronization?

10. Define virtual reality. Give an application for it.

PART B — (5 × 16 = 80 marks)

11. (i) List the issues to be addressed in the design of network for multimedia communication. (8)

    (ii) Explain in detail any one technique for compression of video data. (8)

12. (a) (i) Explain in detail the architecture for high speed switching. (8)

      (ii) Bring out the significance of resource reservation. (4)

      (iii) What is meant by traffic policing? Why is it required in modern routers? (4)

Or

(b) (i) Compare ATM and IP network technologies. (8)

    (ii) Compare any two algorithms for scheduling. (8)

13. (a) (i) List the issues to be considered in the design of multicast communication. (4)

      (ii) Write notes on NBMA networks. (4)

      (iii) Explain in detail how multicast communication is achieved among members of a group spread across different networks. (8)

Or

(b) (i) List the mechanisms in TCP for achieving reliable communication. (4)

    (ii) Though TCP provides reliable communication, a Real Time Protocol (RTP) has evolved. Discuss in detail the RTP and establish its superiority over TCP. (12)

14. (a) (i) Define a storage server. Discuss how the performance of a storage server could be improved. (8)

      (ii) Explain in detail the transmission of video over IP and ATM networks. (8)

Or

(b) (i) What is meant by traffic descriptors? (4)

    (ii) Compare token and leaky bucket algorithm. (8)

    (iii) Write notes on a coding technique for MPEG – 4. (4)

15. (a) (i) Compare Peer–to–Peer and client – server computing. (8)

(ii) Design a multimedia application for on-line registration and issue of hall tickets for the Entrance Examination for Indian Administrative Service. (8)

Or

(b) (i) What is meant by light weight protocols? (4)

(ii) A Technological University located in a state capital wants to establish a new centre called PLA cement Through Internet (PLATIN). The objective is to conduct interview through Internet and offer jobs. The interview panelists will be in PLATIN and the candidates will be in their respective engineering colleges. Design the necessary protocol for PLATIN. (12)

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