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QuestionPaperCode:21293

B.E./B.TECH.DEGREE EXAMINATION, MAY/JUNE 2013

Seventh Semester Electronics

and Electronics Engineering

CS2060/CS807/EC1009–HIGHSPEED NETWORKS

(Common to Eighth Semester–Computer Science and Engineering)

(Regulation 2008)

(Common to PTCS2060 High Speed Networks for B.E.(Part Time) Seventh Semester–
ECE–Regulation 2009)

Time : 3 hours

Maximum : 100 marks

Answer ALL questions PART

A–(10X2= 20 marks)

1. Give few examples for High Speed networks. 2. Draw the ATM cell structure.
3. What is meant by the term “Congestion” in networks? 4. What are the types of queuing models?
5. What is exponential RTT backoff? 6. Define ABR and GFR?
7. Compare Integrated Services architecture and Differentiated Services architecture.
8. What is the significance of Random Early Detection technique?

9. What are the goals of RSVP?

10. List the main functions of RTP and RTCP?

PART B – (16 X 5 = 80 marks)

11. (a)(i) Explain ATM protocol architecture with a neat diagram. (8)
(ii) Briefly explain ATM service categories. (8)
- (Or)
- (b) (i) Explain in detail about 802.11 architecture. (10)
(ii) Write short notes on:
(a) Wireless LANs.
(b) Wi-Fi networks.
(c) Wi-Max networks. (6)
12. (a)(i) Explain the Single Server Queuing model in detail. (10)
(ii) Discuss briefly the effects of congestion in networks. (6)
- (Or)
- (b) Write notes on congestion control used in:
(i) Packet Switching Networks.
(ii) Frame Relay Networks.
13. (a)(i) Explain TCP Congestion control in detail. (10)
(ii) Discuss KARN's algorithm. (6)
- (Or)
- (b)(i) Explain ABR Traffic management in detail. (8)
(ii) Explain GFR Traffic management in detail. (8)
14. (a)(i) Briefly discuss the various queuing disciplines of integrated service. (10)
(ii) Discuss the advantages and disadvantages of integrated service architecture. (6)
- (Or)
- (b)(i) Explain differentiated services architecture in detail. (10)
(ii) Explain the benefits of Random Early Detection algorithm. (6)
15. (a) Explain the Following :
- (i) RSVP. (10)
(ii) Multiprotocol label switching mechanism. (6)
- (Or)
- (b) Explain the following:
(i) RTP. (10)
(ii) RTCP. (6)

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Question Paper Code: 11263

B.E./B.Tech.DEGREE EXAMINATION, NOVEMBER/DECEMBER 2012

Seventh Semester

Electronics and Communication Engineering

CS2060/CS807/EC1009–HIGH SPEED NETWORKS

(Common to Eighth Semester–

Computer Science and Engineering)(Regulation 2008)

(Common to PTC High Speed Networks For B.E.(Part Time) Seventh Semester Electronics and Communication Engineering–(Regulation 2009))

Time: Three hours

Maximum: 100 marks

Answer ALL questions

PART A–(10X2=20 marks)

1. Differentiate between frame relay and X.25 packet switching service.
2. State the data link control functions provided by LAPF protocol.
3. List and explain the parameters for a single server queue.
4. What is meant by BECN?
5. State the mechanisms for supporting rate guarantees in GFR traffic.
6. What is meant by exponential RTT backoff?
7. Give some applications that follow elastic traffic.
8. State the performance parameters that should be in the SLA for a DS document.
9. What is meant by soft state?
10. Explain label stacking in MPLS network.

PART B–(5X16=80 marks)

11. (a)(i) Explain the operation of AAL1 and AAL^{3/4} with an example. (8)
 - (ii) Explain the working of an ATM error control algorithm. (8)
- (Or)
- (b)(i) Illustrate why CSMA/CD is not suitable for wireless LANs. (8)
 - (ii) Draw the 802.11 protocol stack and discuss the functions of PCF and DCF. (8)

12. (a)(i) Explain in detail the following congestion control techniques.

- (1) Backpressure. (4)
- (2) Choke packet. (4)
- (3) Explicit congestion signalling. (4)

(ii) Explain the Kendall's notation in detail. (4)

(Or)

(b)(i) Explain the single server queuing model and its applications. (8)

(ii) Explain about traffic rate management in frame relay networks. (8)

13. (a)(i) Explain about TCP window management in detail. (8)

(ii) Explain the RTT variance estimation using Jacobson's algorithm in detail. (8)

(Or)

(b)(i) List and explain the ATM traffic parameter in detail. (8)

(ii) Explain the ATM ABR traffic management in detail. (8)

14. (a)(i) Explain the way in which ISAM manages congestion and provides QoS transport. (8)

(ii) Explain the round fair queuing technique in detail. (8)

(Or)

(b) Explain the differentiated services operation and the traffic conditioning functions in detail.

15. (a)(i) List and explain the three RSVP preservation styles in detail. (9)

(ii) Explain the MPLS operation in detail with a diagram. (7)

(Or)

(b)(i) Explain the RTP data transfer protocol architecture in detail. (8)

(ii) Explain the functions performed by the RTP control protocol and its packet types in detail.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Describe the ATM cell delineation state with diagram. (8)
(ii) Explain in detail about Fibre channel. (8)

Or

- (b) (i) Briefly describe the ATM architecture. (8)
(ii) What is WiFi? Explain the applications and requirements of WiFi. (8)
12. (a) (i) Describe the effects of congestion in detail. (8)
(ii) Explain in detail about the Congestion control in frame relay. (8)

Or

- (b) (i) Explain the four regions of Single server-queue with neat sketches. (8)
(ii) Describe in detail about the Traffic management. (8)
13. (a) (i) Explain the KARN's algorithm in detail. (8)
(ii) Briefly describe the GFR traffic management. (8)

Or

- (b) (i) What is Window management in TCP? Explain in detail. (8)
(ii) Describe the ABR capacity allocation. (8)
14. (a) (i) Describe the components of integrated services architecture. (8)
(ii) Explain the differentiated services with the architecture. (8)

Or

- (b) (i) Explain the Approaches of Integrated Service Architecture. (8)
(ii) What is GPS? Explain the triple-differences solution algorithm. (8)
15. (a) (i) Describe the Goals and Architecture of RSVP in detail. (8)
(ii) Explain the MPLS forward packet procedures with neat diagram. (8)

Or

- (b) (i) Briefly explain the protocol mechanisms of RSVP. (8)
(ii) What is RTCP? Explain about the RTCP distinguishes several types of packets. (8)