Reg. No. :

Question Paper Code: 49241

M.E. DEGREE EXAMINATION, MAY 2015.

Elective

Computer Science and Engineering (with specialization in networks)

14PNE501 – HIGH PERFORMANCE COMPUTER NETWORKS

(Regulation 2014)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions.

PART A - (5 x 1 = 5 Marks)

1. Which of the following provides support for user information transfer, along with associated control?

    (a) Control plane   (b) User plane

    (c) Management plane   (d) None of the above

2. The fundamental task of a queuing analysis is

    (a) Arrival rate   (b) Service time

    (c) Number of servers   (d) All of the above

3. Which algorithm is used to find out the variance estimation?

    (a) Jacobson's algorithm   (b) Little algorithm

    (c) Karn's algorithm   (d) None of the above

4. Service level agreement established between provider and customer prior to use of

    (a) Integrated services architecture   (b) Differentiated services

    (c) RTP   (d) RTCP

5. Which of the following style specifies a single resource reservation to be shared among an explicit list of senders?

    (a) The wild-card filter   (b) The fixed-filter

    (c) The shared-explicity   (d) None of the above

PART - B (5 x 3 = 15 Marks)

6. List any four important features of frame relay network.

7. State the key characteristics to be considered for deriving the analytic equations for the queuing model.

8. What is meant by binary exponential back off?

9. What are the components of integrated services?

10. What are the functions performed by RTCP?

PART - C (5 x 16 = 80 Marks)

11. (a) What are the services provided by ATM adaption layer? Explain the operation of various protocols. (16)

Or

(b) Describe the architecture of 802.11 in detail with the help of a neat block diagram. (16)

12. (a) (i) State the need for queuing analysis. (8)

(ii) What is kendel's equation? Explain the equations for single server that follows the M/G/I model (8)

Or

(b) Explain the various mechanisms for congestion control in packet switching networks. (16)

13. (a) Explain the Retransmission timer management techniques used in TCP and also explain the window management techniques used in TCP? (16)

Or

(b) (i) Discuss the various issues related to ABR traffic management. (8)

(ii) Explain KARN'S algorithm. (8)

14. (a) Write short note on the following queuing disciplines.

(i) Fair Queuing (FQ) (8)

(ii) Bit Round Fair Queuing (BRFQ) (8)

Or

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(b) Describe the fundamental modules that should be present in differentiated services network. (16)

15. (a) Discuss in detail about the characteristics of MPLS in detail. (16)

Or

(b) Explain in detail about protocol mechanisms and operations of RSVP. (16)

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