Code No: R32051 **R10** **Set No: 1**

III B.Tech. II Semester Regular/Supplementary Examinations, May/June -2014

**ADVANCED COMPUTER NETWORKS**

(Common to Computer Science and Engineering & Information Technology)

**Time: 3 Hours** **Max Marks: 75**

Answer any FIVE Questions

All Questions carry equal marks

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1. a) Compare the virtual circuit and datagram subnets.
   b) Compare the distance vector routing and link state routing algorithms.

2. a) Write and explain the IPv4 address space and IPv6 address.
   b) Discuss about Internetworking.

3. a) What are the advantages of IPv6 over IPv4?
   b) What is meant by datagram? Write the IP datagram format and explain various fields in it.

4. a) Explain the TCP services and features.
   b) TCP is sending data at 1 megabyte per second. If the sequence number starts with 7000, how long does it take before the sequence number goes back to zero?

5. a) What is meant by congestion? Discuss about open-loop congestion control.
   b) Explain the priority queuing technique, and FIFO queuing technique for improving quality of service.

6. a) What is meant by DNS? Discuss the need of it. And also describe about FQDN and PQDN.
   b) Distinguish between static web documents and dynamic web documents.

7. a) What is meant by mobile computing? Discuss the mobility issues in mobile computing.
   b) Explain about wireless mesh networks and discuss the issues in it.

8. Write short notes on the following
   (a) P2P networks
   (b) Routing protocols in MANET
   (c) Ad-hoc networks security.

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Code No: R32051 **R10** **Set No: 2**

III B.Tech. II Semester Regular/Supplementary Examinations, May/June -2014

**ADVANCED COMPUTER NETWORKS**

(Common to Computer Science and Engineering & Information Technology)

**Time: 3 Hours** **Max Marks: 75**

Answer any FIVE Questions

All Questions carry equal marks

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1. a) Explain the shortest path routing algorithm with a suitable example.
   b) Discuss with a suitable example the count-to-infinity problem in distance vector routing.

2. a) Compare the IPv4 and IPv6 address spaces.
   b) What is meant by NAT? Discuss its significance.

3. a) What is meant by checksum in IP datagram? Explain with an example how the checksum will be calculated.
   b) Write the IPv6 packet format and explain various fields in it.

4. a) Explain the SCTP services and SCTP features.
   b) What is the minimum and maximum size of a UDP datagram? And explain about congestion control in TCP.

5. What is meant by Quality of Service (QoS)? State and explain various techniques that can be used to improve QoS.

6. a) What is meant by email? With a neat diagram explain the format of an email.
   b) What is meant by HTTP and URL? Discuss about wireless web.

7. a) Discuss various applications of Ad-hoc networks.
   b) Explain about WSN functioning, and Operating system support in sensor devices.

8. Write short notes on the following
   (a) Components of SIP
   (b) Computational grids
   (c) Client/server paradigm.

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Code No: R32051 **R10** **Set No: 3**

III B.Tech. II Semester Regular/Supplementary Examinations, May/June -2014

**ADVANCED COMPUTER NETWORKS**

(Common to Computer Science and Engineering & Information Technology)

**Time: 3 Hours** **Max Marks: 75**

Answer any FIVE Questions

All Questions carry equal marks

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1. a) What is meant by connection less services and connection oriented services? Discuss how to implement them.
   b) Explain the multicast routing algorithm with a suitable example.

2. a) What is meant by IPv6? Write and explain its address space.
   b) Discuss about connectionless Internetworking.

3. a) What is meant by fragmentation? Explain it with a suitable example.
   b) What are the three strategies for transition from IPv4 to IPv6? Explain them.

4. a) What are the well known ports used by UDP? Explain the user datagram format.
   b) State and explain various TCP services.

5. a) Compare the open loop congestion control and closed loop congestion control.
   b) Discuss about congestion control in TCP.

6. a) What are name servers? Discuss about message formats and message delivery in email.
   b) Distinguish between audio compression and video compression. And discuss about video on demand.

7. What are MANETs? State and explain various routing protocols in MANET, and also discuss MAC layer issues.

8. Write short notes on the following
   (i) WSN characteristics
   (ii) SIP session establishment
   (iii) Issues in grid construction technology.

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Code No: R32051 **R10** **Set No: 4**

III B.Tech. II Semester Regular/Supplementary Examinations, May/June -2014

**ADVANCED COMPUTER NETWORKS**

(Common to Computer Science and Engineering & Information Technology)

**Time: 3 Hours** **Max Marks: 75**

Answer any FIVE Questions

All Questions carry equal marks

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1. a) Discuss about congestion control in datagram subnet.
   b) Explain hierarchical routing with a suitable example.

2. a) Write and explain the IPv4 address space and notations.
   b) What is meant by network addressing translation? Write the IPv6 address structure.

3. a) Compare the IPv4 and IPv6 packet formats.
   b) Discuss the Dual stack and Tunneling strategies for translation from IPv4 to IPv6.

4. a) What are the well known ports used by TCP? Explain them.
   b) Discuss briefly about process to process delivery.

5. a) What is meant by Traffic shaping? Discuss any two techniques for traffic shaping.
   b) Discuss about closed loop congestion control and frame relay.

6. a) Discuss about digital audio, streaming audio, and internet radio.
   b) What is meant by DNS? Discuss various email message formats.

7. Discuss in detail about Mobile Ad-hoc networks and P2P networks.

8. Write short notes on the following
   (a) Components of SIP
   (b) WMN design
   (c) Mobility issues in mobile computing.

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