[Total No. of Questions - 9] [Total No. Printed Pages - 2]
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16280(D) - 0 DEC 2016

B. Tech 8th Semester Examination

Advanced Computer Networks (NS)

CS-421(c)

Time : 3 Hours **Max. Marks : 100**

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt five questions selecting one question from each section A, B, C and D. Section E is compulsory.

SECTION - A

1. (a) Explain the datagram and virtual circuit switching with example. (10)

   (b) Briefly explain the scheduling techniques to improve QoS in Internet working. (10)

2. (a) Explain in detail about the Interdomain Routing. (10)

   (b) Define briefly the steps that take place in the process of Hop-by-Hop choke packets? (10)

SECTION - B

3. (a) What is the purpose of traffic sharing? Explain Leaky Bucket algorithm in detail. (10)

   (b) Explain the following queuing disciplines—

   (i) FIFO (ii) Fair Queuing (2×5=10)

4. (a) Explain different policies to prevent congestion in open-loop congestion control mechanism. (10)

   (b) Write short notes on—

   (i) RED (ii) XCP (2×5=10)

SECTION - C

5. (a) Explain the need for demand based routing protocol for wireless sensor networks. Compare hierarchical routing and flat routing in sensor networks. (10)

   (b) Describe the architecture of wireless sensor network and list out the number of challenges involved in ad-hoc network architecture. (10)

6. (a) Explain in detail about ALOHA based wireless random access technique. What is the maximum throughput of a pure ALOHA networking with a large number of users and a transmission rate of 1 Mbps. (10)

   (b) Explain the source initiated on-demand routing protocol in ad-hoc networks in detail. Explain any two table driven routing protocols in ad-hoc networks. (10)

SECTION - D

7. (a) What is distributed Hash table? Explain routing in distributed Hash tables in detail. (10)

   (b) Explain data oriented networking and delay tolerant-networking in detail. (10)

8. Write short notes on–

   (i) XTrace (ii) Overlay Networks
   (iii) DNS (iv) Data Center Networking. (4×5=20)

SECTION - E

9. (a) What is the use of combing algorithm in the collision avoidance process in wireless networks?

   (b) How does wireless sensor network differ from mobile ad-hoc networks?

   (c) State the importance of QoS in ad-hoc networks.

   (d) Define wireless sensor network.

   (e) Name the five major challenges for implementation of wireless LAN.

   (f) List the major goals when selecting a routing protocol.

   (g) List the two types of schemes available to allocate a single broadcast channel among competing nodes.

   (h) Mention the major application area of wireless sensor network.

   (i) Wi-Fi and WiMax may be the alternet solution for fixed broad band services in rural area. Comment on this issue.

   (j) Find out class of following IP address—

   (i) 237.14.2.1 (ii) 129.35.54.12 (10×2=20)