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Question Paper Code : 60462

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2016.

Sixth Semester

Electronics and Communication Engineering

EC 2352/EC 62/10144 EC 603/10144 BME 41 — COMPUTER NETWORKS

(Common to Seventh Semester Biomedical Engineering)

(Regulations 2008/2010)

(Also Common to PTEC 2352 – Computer Networks for B.E. (Part-Time)
Fifth Semester – Electronics and Communication Engineering – Regulations 2009)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Highlight the salient features of packet switching.
2. Assume 6 devices are connected in mesh topology. How many cables are needed? How many ports are needed for each device?
3. State the difference between fast ethernet and gigabit ethernet.
4. What is HDLC?
5. Compare IPv4 and IPv6 addressing.
6. What is the use of multicast routing?
7. Suppose a TCP connection is transferring a file of 5000 bytes. The first byte is numbered 10,001. What are the sequence numbers for each segment if data are sent in five segments, each carrying 1000 bytes?
8. What is SYN flooding attack?
9. How is a symmetric key different from public key?
10. Discuss the three main divisions of the DNS.

PART B — (5 × 16 = 80 marks)

11. (a) Explain in detail about circuit switching and data gram switching with diagram. (16)

Or

- (b) Discuss about OSI reference model with neat sketch. (16)
12. (a) Describe the architecture of HDLC with relevant sketch.

Or

- (b) (i) A pure ALOHA network transmits 200-bits frames on a shared channel of 200 kbps. What is the throughput if the system produces (1) 1000 fps, (2) 500 fps and (3) 250 fps. (12)
- (ii) Write short note on Token Passing. (4)
13. (a) Write short notes on ICMP, ARP, RARP and IGMP.

Or

- (b) (i) If a router has 15 entries in its group table, should it send 15 different queries periodically or just one? Explain your answer. (6)
- (ii) An organization is granted the block 130.56.0.0/16. The administrator wants to create 1024 subnets. Find the subnet mask, number of addresses in each subnet, first and last addresses in subnet 1 and first and last addresses in subnet 1024. (10)
14. (a) (i) Explain how data is transmitted using TCP. (8)
- (ii) Why UDP is said to be unreliable? Discuss. (8)

Or

- (b) Explain any one congestion control mechanism with a neat sketch. (16)
15. (a) Explain in detail about the following :
- (i) DNS. (8)
- (ii) HTTP. (8)

Or

- (b) (i) Write a brief note on File transfer protocol. (8)
- (ii) What is Cryptography? Describe Symmetric key and public key algorithms in detail. (8)