Exam.Code:0929
Sub. Code: 33667

2076

B.E. (Electronics and Communication Engineering)
Fifth Semester
EC-504: Computer Networks

Time allowed: 3 Hours **Max. Marks: 50**

NOTE: Attempt five questions in all, including Question No. 1 (Section-A) which is compulsory and selecting two questions each from Section B-C.

x-x-x

SECTION-A

Q1. a) What is difference between Network Hardware and Network Software?
b) What is the significance of PPP in data link layer?
c) What is supernetting and subnetting?
d) Explain difference between TCP and UDP?
e) What is the function of presentation layer? 10

SECTION-B

Q2. Why reference models have layered structured? Explain and differentiate between all Layer 2 and Layer 3 devices with suitable examples. 10

Q3. a) What is the need of channel partitioning protocols? Explain CSMA/CA along with its key features and working.
b) One hundred stations on a pure ALOHA network share a 1-Mbps channel. If frames are 1000 bits long, find the throughput if each station is sending 10 frames per second. 10

Q4. a) Differentiate between flow control and error control. Can flow control alone guarantee reliable communication? Why? 10
b) What is the difference between the sender window and receiver window? Why are sequence numbers required in the Sliding Window protocol?

SECTION-C

Q5. a) What are the main functions of the Network Layer? If the Subnet Count is from /16 to /20, how many subnets have increased? What is the Network Address and Block address of this IP: 172.16.35.123/20. 10
b) Differentiate between IPv4 and IPv6. How IPv4 address can be encapsulated in IPV6 address?

Q6. a) When does congestion happens in the network? What are various open loop and closed loop congestion control methods? 10
b) What is the role of the transport layer in communication? What are ephemeral port numbers and a socket pair?

Q7. a) Explain HTTP architecture and working.
b) What is FTP? List its advantages and disadvantages. Which protocol does FTP use for transport and why? 10

x-x-x