K L University, Guntur
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Offered By :-Department of Computer Science and Engineering
Offered To:- Department of Electronics and Communication Engineering[ECE] & Electronics and Computer Science Engineering[ECM]

Course Code & Title : 13-CS-205,Computer Networks		Branch : ECE & ECM
Class :III/IV B.Tech(5th Sem)	Section: All sections(S1to S10)	Marks:-10
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Last date of Submission:29-08-16 (S1-S10)		

Home Assignment -1

Answer the following:-

1. In a packet switching network, packets are routed from source to destination along a single path having two intermediate nodes. If the message size is 24 bytes and each packet contains a header of 3 bytes, then the optimum packet size is and mention about packet switching.
2. A simple telephone system consists of two end offices and a single toll office to which each end office is connected by a 1-MHz full-duplex trunk. The average telephone is used to make four calls per 8-hour workday. The mean call duration is 6 min. Ten percent of the calls are long-distance (i.e., pass through the toll office). What is the maximum number of telephones an end office can support?
3. The Internet is roughly doubling in size every 9 months. Although no one really knows for sure, one estimate put the number of hosts on it at 900 million in 2012. Use these data to compute the expected number of Internet hosts in the year 2017. Do you believe this? Explain why or why not. Justify your answer with five real time examples?
4. When a file is transferred between two computers, two acknowledgement strategies are possible. In the first one, the file is equipped into packets, which are individually acknowledged by the receiver, but the file transfer as a whole is not acknowledged. In the second one, the packets are not acknowledged individually, but the entire file is acknowledged when it arrives. Discuss these two approaches in detail?
5. (i) For n devices in network, what is the no. of cable links required for a mesh, ring, bus & star topology?
   (ii) What is the difference between half-duplex and full-duplex transmission modes?
   (iii) What are some of the factors that determine whether a communication system is a LAN or WAN?
   (iv) Identify the five components of a data communications system?
6. Performance is inversely related to delay. When you use the Internet, which of the following applications are more sensitive to delay?
   (i) Sending an e-mail
   (ii) Copying a file
   (iii) Surfing the Internet