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80662**B.Tech. (8th Sem.) Examination (Under CBS)**
COMPUTER NETWORKS (EIC-306)

Time : 3 Hours]

[Max. Marks : 60

Section A: Contains ten Compulsory questions and each carry 2 marks.

1. (a) Write the name of the layer at which switch is used and why it called as an intelligent hub? (2)
- (b) Which packet is used to inform the source node that mail is dropped due to any reason? (2)
- (c) If the signal to noise ratio for a certain channel is '1' than what is the shanon channel capacity of this channel. (2)
- (d) Which topology is the best and give two reasons to support your answer? (2)
- (e) Why emphasis is laid on error detection not on error correction. Give reason to support your answer? (2)
- (f) Which is better in terms of efficiency GO back N ARQ or Stop and wait protocol for noisy channels? (2)
- (g) How many number of host can be connected to class 'B' IP address group. (2)
- (h) Explain the role of synchronization points used at session layer. (2)

- (i) The value of HLEN in TCP header packet is '1011'. How many bytes of options/padding are used in TCP header packet? (2)
- (j) Which protocol is used for providing email security? (2)

Section B: This section contains 6 questions, out of which four are to be done.

2. Differentiate between OSI and TCP/IP model? Give brief description of various layers of OSI Model? (10)
3. (a) Why minimum of three satellites is needed to track an object on earth surface (tri alteration principle)? Differentiate between LEO, MEO and GEO satellites in terms of distance and time to make one complete revolution around earth (use Keplers law to calculate time period). (5)
- (b) Explain Email security in detail. (5)
4. Explain CSMA/CA protocol for random access. A slotted Aloha networks transmits 200 bit frames on a shared channel of 200 Kbps. What is the throughput of the system if there are 10 nodes and one system produces 1000 frames/sec. (10)
5. (a) Explain distance vector routing algorithm with the help of an example network. Also write its problem and how it can be rectified. (5)
- (b) Calculate the value of key for the variables $p=7$, $q=13$, $x=73$, $y=23$ using diffie hellman algorithm. (5)

6. (a) Differentiate between TCP and UDP packet in detail. (5)
(b) Explain JPEG compression for images in detail. (5)
7. Write short note on the following :
- (a) Remote procedure Call used at session layer.
(b) SNMP protocol. (5+5)
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