

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY-2008

III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS  
**COMPUTER NETWORKS**  
(CSE, IT, ECS, CSS)

AUG/SEP 2008

TIME:3HOUR  
MARK:80

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ANSWER ANY FIVE QUESTIONS ALL QUESTIONS CARRY EQUAL MARKS.

MARK [16\*5=80]

1. (a) Explain in detail ISO-OSI reference model.  
(b) Write short notes on interface, service and protocol.
2. (a) Briefly, explain about the DLL design issues.  
(b) If the bit string 011110111110111110 is bit stuffed. What is the output of the string?
3. (a) What is meant by contention systems.  
(b) Explain CSMA/CD protocol.  
(c) Explain any one Collision free protocol.
4. (a) Write short notes on:
  - i. Choke packet
  - ii. Load shedding
  - iii. Jitter control.  
(b) With an example, explain any one adaptive routing algorithm.
5. (a) Imagine that a two-way handshake rather than a three-way handshake were used to set up connections. In other words, the third message was not required. Are deadlocks now possible? Give an example or show that none exist.  
(b) Datagram fragmentation and reassembly are handled by IP and are invisible to TCP. Does this mean that TCP does not have to worry about data arriving in the wrong order?
6. (a) What is internet work routing? Explain interior gateway and exterior gateway protocols.  
(b) What is three bears problem? Write short notes on CIDR.
7. (a) Can AAL 1 handle messages shorter than 40 bytes using the scheme with the Pointer field? Explain your answer.  
(b) AAL 3/4 allows multiple sessions to be multiplexed onto a single virtual circuit. Give an example of a situation in which that has no value. Assume that one virtual circuit has sufficient bandwidth to carry all the traffic.  
(c) What is the payload size of the maximum length message that fits in a single AAL 3/4 cell?
8. (a) What is Cryptanalysis? Briefly discuss about substitution cipher, transposition ciphers and one-time pads.  
(b) Explain any one secret key algorithm.