



Name :
Roll No. :
Invigilator's Signature :

CS/M.Tech (ECE)/SEM-1/MCE-105A/2011-12

2011

COMPUTER COMMUNICATION & NETWORKING

Time Allotted : 3 Hours

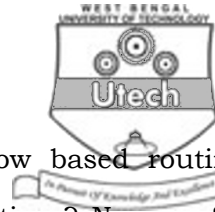
Full Marks : 70

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

Answer any *five* questions of the following

1. a) Explain the utility of layered network architecture.
Compare ISO-OSI and TCP/IP models.
b) Differentiate circuit switching and packet switching.
10 + 4
2. a) Find the expression for average delay and throughput
for both pure ALOHA and slotted ALOHA. Compare their
performances as well.
b) Explain how collision detection is handled in CSMA/CD.
8 + 6
3. a) What do you mean by non adaptive routing algorithm
and adaptive routing algorithm ? Briefly discuss
shortest path routing algorithm with the help of an
example.



- b) What do you mean by flooding, flow based routing, broadcast routing and multicast routing ? Name a few dynamic routing algorithms. 7 + 7
4. a) What is IP addressing ? What are the different classes of IP addressing ? What is the difference between static and dynamic IPs ?
- b) Compare IP Addressing and MAC addressing. 10 + 4
5. a) What are the different types of encryption techniques ?
- b) What do you mean by Asymmetric Key Cryptography ?
- c) Briefly describe RSA algorithm. 3 + 3 + 8
6. a) What is congestion ? Why does congestion occur ? Explain Leaky Bucket algorithm for congestion control.
- b) In Selective Repeat ARQ, the size of the sender window must be at most 2/2. Explain it. 8 + 6
7. Write short notes on any *two* of the following 7 + 7
- a) Internet Security
 - b) DNS
 - c) SNMP
 - d) Sliding Window protocols.
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