

Total No. of Questions :5]

SEAT No. :

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M.Sc. -I

COMPUTER SCIENCE

CS-201: Advanced Networking

(2008 Pattern) (Semester - II)

Time : 3 Hours]

[Max. Marks :80

Instructions to the candidates:

- 1) All questions are compulsory.*
- 2) Neat diagrams must be drawn wherever necessary.*
- 3) Figures to the right indicate full marks.*

Q1) Attempt all of the following:

[8×2=16]

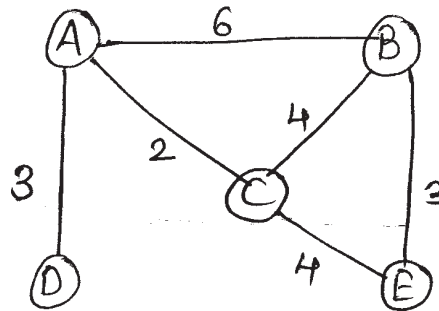
- a) Define the goals of security.
- b) What is AAL? In which protocol is used? Specify the layer.
- c) Define streaming live audio | video.
- d) Why does RTP need the service of another protocol. RTCP but TCP does not?
- e) What is hidden terminal problem?
- f) Define out-of-band signaling.
- g) IP is a best effort delivery protocol. Justify.
- h) State ICMP error reporting and query messages.

P.T.O.

Q2) Attempt any four of the following:

[4×4=16]

- a) Create a shortest path tree by using Dijkstras algorithm for Node A. Explain the steps.



- b) Explain the options supported by IPV4 & IPV6.
- c) Explain the characters used by TELNET client to control the remote server.
- d) Discuss the implementation of fast ethernet.
- e) Explain the applications of UDP.

Q3) Attempt any four of the following:

[4×4=16]

- a) Explain SNMP messages in detail.
- b) Explain the connectionless iterative server with socket interface.
- c) Explain the different messages supported by RTCP.
- d) Can the calculated sending time, receiving time or round trip time have a negative value? Why or why not? Give example.
- e) Discuss the symmetric & asymmetric release of TCP.

Q4) Attempt any four of the following:

[4×4=16]

- a) Show the message transfer phase from aaa@ xxx.com to bbb@ yyy.com. The message is “Good Morning”.
- b) What is the need for SIP? Explain the messages used in SIP.
- c) Explain the DHCP header format with option field.
- d) Explain how TCP handles congestion control.
- e) In a datagram, the m bit is zero, the value of HLEN is 5, the value of total length is 200 and the offset value is 200.

What is the number of the first byte and the number of the last byte in this datagram? Is this the last fragment, the first fragment or a middle fragment? Justify.

Q5) Attempt any four of the following:

[4×4=16]

- a) Explain the response messages of DNS.
- b) Explain the scenario where Tomlinson's clock based method is applied.
- c) Explain how non ASCII data is sent through E-mail?
- d) Write a note on VPN architecture.
- e) Explain Multicast routing and state approaches used to reduce the complexity of multicast routing.

EEE