

Reg. No. :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

K 3534

M.C.A. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2007.

Third Semester

MC 1701 – COMPUTER NETWORKS

(Regulation 2005)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the three necessary criteria for an efficient network?
2. Mention the responsibilities of Network layer.
3. What are the categories of Network based on its size?
4. How is the preamble field different from the start frame delimiter?
5. Which class of IP addresses is used for unicast and multicast communication?
6. What is the purpose of NAT?
7. List some uses of UDP.
8. What is socket address?
9. If 20 people need to communicate using symmetric key cryptography, How many keys are needed?
10. Which protocol support E-mail on the internet? What are two parts of E-mail?

PART B — (5 × 16 = 80 marks)

11. (a) How do layers of the internet model correlate to the layers of OSI model? Discuss in detail the various services provided by the layers.

Or

- (b) Determine the BCS for the following data and CRC generating polynomials and explain the same.

data $G(x) = x^7 + x^5 + x^4 + x^2 + x^1 + x^0$ or 10110111

CRC $P(x) = x^5 + x^4 + x^1 + x^0$ or 110011.

12. (a) What is ethernet? Describe the topologies and transmission formats used with LANS.

Or

- (b) Describe Wireless LAN and its application.

13. (a) Explain in detail various duties of Network Layer.

Or

- (b) What is meant by Unicast and Multicast Routing? Explain Routing protocols in detail.

14. (a) Discuss TCP congestion control and Avoidance Mechanisms.

Or

- (b) What is the difference between TCP and UDP? Explain about them.

15. (a) What are the two categories of cryptography methods? Explain with examples.

Or

- (b) Write short notes on :

(i) Domain Name Service.

(ii) SMTP.

(iii) MIME.