

- (c) What is multiple access communication? Explain various multiple access techniques.

Q5. Attempt any *two* questions from the following : 10x2=20

- (a) What is an interconnecting device in the internet? Explain various interconnecting device used in the internet with suitable example.
- (b) Define IP addressing. Compare and contrast IPv4 with IPv6.
- (c) Explain the steps of setting up a circuit for data communication and closing of it after data transmission in TCP with suitable example.
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Printed Pages : 4



MCA414

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 214421

Roll No.

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MCA
(SEM. IV) THEORY EXAM. 2014-15
COMPUTER NETWORKS

Time : 3 Hours]

[Total Marks : 100

Note : Attempt the questions as indicated.

Q1. Attempt any *four* questions from the following : 5x4=20

- (a) Write functions of data link layer of ISO-OSI reference model.
- (b) Explain fragmentation of packet and its need in internet.
- (c) What is virtual LAN? Explain its applications.

- (d) Differentiate between adaptive and non-adaptive routing algorithms.
- (e) Explain the functioning of email gateway.

Q2. Attempt any *four* questions from the following : 5x4=20

- (a) Why TCP is preferred over UDP in some applications? Explain the reason and also mention those applications.
- (b) Define DNS and its requirement. Explain the specific features of it.
- (c) What is public key encrypting method? Compare it with private key cryptography. Explain RSA algorithm with suitable example.
- (d) Explain sliding window protocol.
- (e) Define Packet Switching.

Q3. Attempt any *two* questions from the following : 10x2=20

- (a) Describe hamming code. How it is used for error detection and correction? Illustrate with the help of a suitable example.
- (b) List the layers in the TCP/IP model. Why packet switching is relevant to the internet?
- (c) What are the salient features of ISDN? Discuss the functions of different layers in ISDN.

Q4. Attempt any *two* questions from the following : 10x2=20

- (a) What are the error and flow control techniques in a network? Explain various ARQ techniques with suitable example. Discuss error and flow techniques implemented in Ethernet LAN.
- (b) What is hamming code? Calculate the hamming code for following message string : 1100101 with each and every step explained clearly.