

**MCA-19**

June - Examination 2016

**MCA IIIrd year Examination****Data Communication and Computer Networks****Paper - MCA-19****Time : 3 Hours ]****[ Max. Marks :- 80**

**Note:** The question paper is divided into three sections A, B and C. Write answers as per given instructions.

**Section - A****8 × 2 = 16**

(Very Short Answer Questions)

**Note:** Answer **all** questions. As per the nature of the question delimit your answer in one word, one sentence or maximum upto 30 words. Each question carries 2 marks.

- 1) (i) Name the various types of topologies used for connecting PCs.
- (ii) Give the definition of Protocol.
- (iii) What is Latency?
- (iv) According to Nyquist the theoretical maximum bit rate can be calculated by the formulae \_\_\_\_\_ ?
- (v) What is framing in the Data link layer?
- (vi) State count to infinity problem.

(vii) Name two application layer Protocols.

(viii) What is need of modulation?

### Section - B

4 × 8 = 32

(Short Answer Questions)

**Note:** Answer **any four** questions. Each answer should not exceed 200 words. Each question carries 8 marks.

- 2) Name the three types of transmission modes. Explain with suitable example each mode of transmission.
- 3) What do you mean by multiplexing? Compare Frequency division Multiplexing and Time division Multiplexing.
- 4) What do you mean by Routing? Explain the different fields of an IPv4 packet.
- 5) Discuss the role of transport layer in OSI model.
- 6) Discuss the working of DNS (Domain name system). Also explain its significance.
- 7) What is meant by a switched network? Why do you prefer it over point-to-point network?
- 8) What is the purpose of placing twists in a pair of wires used in a twisted pair as transmission medium? Why do we earth the shield of a coaxial cable?
- 9) Explain the concept of the Simple Mail Transfer Protocol giving suitable examples.

**Section - C****2 × 16 = 32**

(Long Answer Questions)

**Note:** Answer **any two** questions. You have to delimit your each answer maximum upto 500 words. Each question carries 16 marks.

- 10) What are the design issues of layered architecture? Compare and contrast the OSI 7-layer model with TCP/IP model.
- 11) What is the use of sliding window? Compare UDP and TCP.
- 12) What is flow control in the data-link layer? What are the available flow control techniques?
- 13) Write short note on the following:
  - (i) Selective Repeat ARQ.
  - (ii) HDLC Protocol.

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