Printed Pages : 3

CA202

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

PAPER ID : **214202**

Roll No.

M. C. A.

(SEM. IV) THEORY EXAMINATION, 2014-15

COMPUTER NETWORKS

Time : **3** Hours] [Total Marks : **100**

Note : (i) Attempt all the questions, choices are within each question.

(ii) All questions carry equal marks.

1 Attempt any four parts of the following : 5×4=20

(a) Differentiate among circuit switching, packet switching and message switching.

(b) Describe the following :

(i) Repeater & Gateway

(ii) Hub & Switches

(c) What is ISDN ? Draw the ISDN communication architecture.

(d) A file size is 0.008 GB. How long does it take to download this file using a 8-MBPS channel ?

(e) Differentiate among the following :

(i) Protocol & Interface

(ii) Standard & Service

(f) Differentiate between TCP & UDP protocols.

2 Attempt any two parts of the following : 10×2=20

(a) A large population of ALOHA users manage to generate 50 requests/sec, including both originals and retransmissions. Time is slotted in units of 40 msec.

(i) What is the chance of success on the first attempt ?

(ii) What is the probability of exactly k collisions and then a success ?

(iii) What is the expected number of transmission attempts needed ?

(b) Describe & differentiate between Token ring and Token bus LAN standards.

(c) Discuss the following in the context of IEEE 802.3 standard :

(i) The binary exponential backoff algorithm

(ii) 802.3 cabling

(iii) Encoding techniques

(iv) 802.3 performance.

3 Attempt any two parts of the following : 10×2=20

(a) Compare and contrast CSMA/CD with CSMA/CA.

(b) What is unicast routing ? Discuss unicast routing protocols.

(c) What is congestion ? Name the techniques that prevent congestion. Discuss any two techniques in brief.

4 Attempt any two parts of the following : 10×2=20

(a) (i) What are the different presentation layer design issues ? Explain.

(ii) Explain transport layer quality of service parameters in detail.

(b) Describe hamming code. How it is used for error detection and correction ? Illustrate with the help of a suitable example.

(c) Draw TCP segment Header Format and explain its various field.

5 Write short notes on any four parts of the following : 5×4=20

(a) DNS in the internet

(b) Electronic mail

(c) SMTP

(d) File transfer protocol

(e) Voice over IP

(f) SNMP.