322847(22)

B. E. (Eighth Semester) Examination, April-May 2018

(New Scheme)

(CSE Engg. Branch)

INTERNET and MULTIMEDIA TECHNOLOGY

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

***Note** : Attempt all questions. Part (a) of each question is compulsory and carrying 2 marks each and attempt two parts from (b), (c) and (d) carrying 7 marks each.*

1. (a) Explain ping and tracert commands.

(b) Write short notes on flow control and error control handled in TCP.

(c) Working of ARP and RARP protocols with format.

(d) An organization is granted in block 184.62.0.0 in class B. The administrator wants to create 512 subnets :

(i) Find the subnet mask

(ii) Find the number of addresses in each subnet

(iii) Find the first and last address in the fist subnet

(iv) Find the first and last address in the last subnet

2. (a) How ISDN uses out-of-band signaling?

(b) If an organization has BSNL PRI service. What it actually mean? What will be the approx, transfer rate? What are the different devices equipped at the subscriber and service provider end?

(c) What are the functions of different signaling units? Explain the layers of SS7 protocol stack.

(d) Explain ATM reference model.

3. (a) Define Piconet and Scatternet.

(b) Define mobile IP. Explain the following :

(i) Indirect routing of datagram

(ii) Agent discovery

(iii) Registration process

(c) Compare Bluetooth, Infrared and 802.11 WLAN.

(d) Explain MACAW protocol for wireless LAN.

4. (a) Define temporal and non-temporal media. Give examples of each.

(b) Given the following portion from an 8×8 block from an image after the discrete cosine transform has been applied :

128	64	75	128
128	39	66	164
69	16	12	9
4	21	16	3

(i) What is the result of the quantization step of the JPEG compression method assuming that constant qauntization value of 64 is used.

(ii) What is the result of the following zigzag step being applied to the quantized block?

(iii) What is the result of the following run length encoding (RLE) step being applied to the zigzap step's output?

(c) Briefly state the Huffman coding algorithm. Show how you would use Huffman coding to encode the following set of tokens :

AAABDCEFBBAADCDF

(d) Explain LZW compression algorithm. Encode the string "BABAABAAA" using LZW algorithm.

5. (a) What is IEEE 1394?

(b) What is MMX technology instruction? Explain the data type and instruction set of MMX technology instruction.

(c) Explain the following for MDBMS :

(i) Characteristics

(ii) Data structure and operation

(d) Explain the following :

(i) Earlist deadline first algorithm (EDF)

(ii) Rate monotonic algorithm

(iii) MPEG7