

BE - sem - VII - Rev

E & TC DCE

21/5/18

QP Code : 8481

(3 Hours)

[Total Marks : 100

- N.B. (1) Question no. 1 is compulsory
(2) Attempt any four out of the remaining six questions.
1. (a) How are DPCM and ADPCM used for audio compression? 5
(b) Compare public key and private key cryptosystems giving an example for each. 5
(c) Explain the principle of "arithmetic coding" with a suitable example. 5
(d) What are digital signatures and how are they used? 5
2. (a) Compare statistical text compression and dictionary text compression. List the techniques in each method. 8
(b) Discuss various techniques for lossy and lossless image compression. 12
3. (a) Explain the working of an MP3 encoder and decoder for audio compression. 10
(b) What is motion compensation in video compression? Explain the MPEG video compression standard. 10
4. (a) Explain the working of triple DES with two and three keys. 10
(b) Explain RSA algorithm with an example. 10
5. (a) What is Diffie-Hellman key exchange? Explain with an example. 10
(b) What are the requirements on a Hash and a MAC function? 10
6. (a) What are various aspects of firewall design? 10
(b) What are digital signatures? How are they implemented? 10
7. Write short notes on any two:- 20
(a) Chinese Remainder Theorem
(b) Secure Electronic Payment System
(c) Viruses and Worms, their Counter-measures