



# Digital Logic Design and Analysis

December 17

Computer Engineering (Semester 3)

**Total marks: 80**

**Total time: 3 Hours**

## INSTRUCTIONS

(1) Question 1 is compulsory.

(2) Attempt any **three** from the remaining questions.

(3) Draw neat diagrams wherever necessary.

- Q1 Differentiate 20
- a) Juke box and DVD
  - b) RTF and TIFF
  - c) Gray and color image
  - d) PCM and DPCM
- Q2 a) Why the communication service quality should be good for multimedia streaming?  
Explain the role of RTP, RTSP, RTCP and RSVP 10
- b) For the phrase "Excellent Achievement" perform Huffman coding and generate the output.  
Apply decoding and convert in back to the text. also find the redundancy in encoding. 10
- Q3 a) What are the characteristics of sound waves? Illustrate the steps to digitize audio data. 10
- b) What is the job of header in a file? Give the header details for BMP file format. 10
- Q4 a) What is Steganography? Explain any one method with an example. 10
- b) Discuss The Different steps involved in MPEG compression Technique. Also compare with H.261. 10
- Q5 a) What parameters define the quality of an image? Discuss these parameters and their effect  
On the storage requirement.
- b) What are the multimedia security requirements? Discuss. 20
- Q6 Write short note on (any two) 20
- a) Digital signature
  - b) Authoring systems
  - c) JPEG compression technique