

Second Semester M.Tech Degree Examination, Sept. 2014
(2013 Scheme)

Branch: Electronics and Communication

TME 2004 DIGITAL TECHNIQUES IN TELEVISION ENGINEERING

Time : 3 Hours

Max Marks: 60

Answer *any two* questions from each module.

MODULE I

1. Explain the orthogonal sampling structure of a picture in digital TV.
2. (a) What are the digitization formats ? Explain in detail.
(b) What are the high definition digital formats?
3. With the help of a simplified block diagram, explain DVB-T modulator.

MODULE II

4. (a) Explain the steps involved in lossy JPEG compression.
(b) Starting from top level, explain the successive layers in decomposition of MPEG video sequence.
5. (a) What are the MPEG-2 levels and profiles?
(b) Explain Temporal Masking and Frequency Masking in MPEG audio.
6. (a) What is the need for scrambling algorithm in DVB? What are layers? Explain scrambling algorithm at the transport level and at the PES level.

MODULE III

7. (a) Summarize the differences between DVB-T and ATSC Systems.
(b) Explain a modulation scheme for DVB.
8. (a) With schematic, 8-VSB modulation.
(b) Explain ITU-R system B teletext.
9. With an example, explain DVB subtitle operation.