

Advanced Audio & Video Communication

P. Pages :1

Time : Three Hours



GUG/W/16/5983

Max. Marks :70

Notes : 1. All questions carry equal marks. Attempt **any five** questions.

1. a) Explain LTI model of speech production and also give limitations of MIS model. **8**
b) Explain how LTU model overcomes the above limitations. Explain with the help of a block diagram. **6**
2. a) What do you mean by granular noise and slope overload error in case of uniform quantizer. **6**
b) How these errors can be minimized with the help of compressor and expander curves. Explain with the help of block diagram. **8**
3. a) Explain how DCT is more efficient technique of compression as compared to fourier analysis. **7**
b) Describe the process of sub hand coding with suitable examples. **7**
4. a) Explain MP3 audio standard with the help of block diagram. **8**
b) Draw and explain the frame structure of MPEG – I for layers I and II. **6**
5. a) Draw and explain block schematic of Dolby AC3 system. Also show how it differs from MPEG Algorithm in bit allocation. **10**
b) Give typical combinations of channels in multichannel digital audio systems. **4**
6. a) Define analog and digital video. Explain why digital video is recommended over analog video. **10**
b) Explain different types of frames used in video coding. **4**
7. a) Explain photometric image formation models in detail. **7**
b) Write a short note on sampling of video signals. **7**
8. a) Give any one application of motion estimation in video coding. **7**
b) Explain how multi resolution motion estimation is performed. **7**
