C 23290

FOURTH SEMESTER B.Sc. (L.R.P.) DEGREE EXAMINATION, APRIL 2017
(CUCBCSS-UG)

Common Course

A 14---BASICS OF AUDIO AND VIDEO MEDIA

Time : Three Hours **Maximum : 80 Marks**

Part I

Answer ***all*** the questions (Each question carries 1 mark.)

1. The power of speech signals can be expressed in _____.
2. Reverberation is caused by _____ of sound waves.
3. For quality microphones nonlinear distortion should be less than _____ %.
4. A transducer that converts sound waves to electrical signals is called _____.
5. _____ recording is based on magnetisation of magnetic materials in an external magnetic field.
6. The expansion of MPEG is _____.
7. Ultrasonic's refer to sound waves having frequency above _____ Hz.
8. Name the nerve that carry signals from ear to brain _____.
9. The base coating material in a magnetic tape is_____.
10. A camera converts brightness and colour into _____ signals.

(10 x 1 = 10 marks)

Part II

Answer ***any five*** questions (Each question carries 2 mark.)

11. What are the factors on which reverberation time depends?
12. Explain Sabine's formula for reverberation time.
13. Explain any two noise reduction techniques.
14. Explain about MP3.
15. Explain the principle of analog video recording.
16. List the characteristics that determine quality of a microphone.

17. Define directivity of a microphone.

(5 x 2 = 10 marks)

Part III

Answer ***any six*** questions (Each question carries 5 mark.)

18. Discuss the following characteristics of a microphone -sensitivity, S/N ratio and frequency response.
19. Discuss the principle, construction and working of a crystal microphone.
20. Discuss digital coding using A/D parallel and flash methods.
21. Derive the relation between tape speed and band width explaining each.
22. Discuss H26 compression standards.
23. Discuss the electrodynamic loud speaker.
24. Distinguish parametric and graphic equalisers.
25. Distinguish MPEG 1, 2 and 3.

(6 x 5 = 30 marks)

Part IV

Answer ***any two*** questions (Each question carries 15 mark.)

26. Explain the construction and working of a moving coil microphone.
27. Discuss digital tape recording systems.
28. Discuss recording of video signals on magnetic tape and its reproduction with block diagrams.
29. Discuss magnetic recording on a tape and explain recorded wavelength, gap width and tape speed.

(2 x 15 = 30 marks)