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Name...

Reg. No...

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 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 × 1 = 10 marks)

Part II

Answer any five questions.
Each question carries 2 marks.

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.

Turn over

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 × 2 = 10 marks)

Part III

Answer any six questions.
Each question carries 5 marks.

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 × 5 = 30 marks)

Part IV

Answer any two questions.
Each question carries 15 marks

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 × 15 = 30 marks)