

**Q.P.Code:** 104015

**Reg. No.:**.....

**First Year BASLP Degree Examinations - September 2012**

**BIOMEDICAL INSTRUMENTATION AND ACOUSTICS**

**Time: 3 hrs**

**Max marks : 80**

- Answer all questions
- Draw diagram wherever necessary

**Essays**

**(4x10=40)**

1. Mention the role of a hearing aid in the rehabilitation of a person with hearing impairment. How this role is achieved electronically. Explain the different types of technologies involved in achieving this role.
2. A pure tone at different frequencies and at different intensities are required for pure tone audiometry. How this pure tone is generated. Explain the electronic system involved in this.
3. Name the equipment used to measure sound intensity. Explain how it functions.
4. Define timbre. State and explain the factors affecting timbre.

**Short notes**

**(5x5=25)**

5. Moving coil microphone
6. DC power supply
7. Enclosures of loudspeaker
8. Specifications of a personal computer
9. Digital signal processing

**Answer briefly**

**(5x3=15)**

10. Define reverberation time. State the formula to calculate reverberation time.
11. Differentiate between UPS and inverter
12. Explain how a speech spectrograph works with a block diagram
13. How do you convert an analog signal to a digital signal
14. Differentiate between operating system and application software.

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