

First Year BASLP Degree Supplementary Examinations March 2019

Biomedical Instrumentation and Acoustics

(2012 Scheme)

Time: 3 hrs

Max marks: 80

- Answer all questions
- Draw diagram wherever necessary

Essays

(4x10=40)

1. How analog and digital signal are represented. Describe the block diagram of digital hearing aid and explain its working principle.
2. What are active and passive components. Explain how transistor works as a voltage amplifier.
3. Define the term software. With examples mention the difference between system software and application software. What is an operating system.
4. What is meant by physical and psychophysical nature of sound. Bring out the difference between them. Explain in detail the characteristics of sound with relevant diagram.

Short notes

(5x5=25)

5. Optical disc recording
6. Reverberation
7. Universal gates
8. Moving coil microphones
9. Audiometer

Answer briefly

(5x3=15)

10. Convert from decimal system to binary, octal and later to hexa decimal 255_{10}
11. Explain the basic structure of a DSP system. Draw neat block diagram and explain each block in detail.
12. What is an uninterrupted power supply. Mention the difference between UPS and inverter.
13. How flip flop stores a binary digit.
14. Differentiate between sound pressure and sound power level.