

# 2012 Scheme

Q.P. Code: 104015

Reg. No.:.....

## First Year BASLP Degree Supplementary Examinations August 2021

### Biomedical Instrumentation and Acoustics

Time: 3 hrs

Max marks: 80

- Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space
- Answer all parts of a single question together • Leave sufficient space between answers
- Draw table/diagrams/flow charts wherever necessary

#### Essays

(4x10=40)

- Write a short note on the following.
  - Break down voltage
  - Knee voltage
  - Forward bias
  - Which electronic component is used as preamplifier in hearing aids. Explain how does it work. (5+5)
- Unit of SPL. Explain the application of sound level meter.
  - Explain in detail the characteristics of sound. (5+5)
- Find the equivalent of B2F8 H in decimal number systems.
  - What is a digital filter. List the difference between IIR and FIR (5+5)
- What is an artificial larynx explain the application and use of this device.
  - What is an audiometer. What are the different types of audiometers used in the hearing evaluation. (5+5)

#### Short notes

(5x5=25)

5. Unijunction transistors.
6. Condenser microphone.
7. Flip-Flops.
8. OAE analyzer
9. Analog to digital converter.

#### Answer briefly

(5x3=15)

10. What is integrated circuit. List the difference between linear and digital IC.
11. Explain the following terms with reference to amplifier.
  - Gain
  - Frequency response
  - Sensitivity
12. What are transducers. Name the two different types of microphones.
13. What is an application software. Explain different types of application software.
14. Why the signal needs to be processed. With neat block diagram explain the functioning of digital signal processing system.

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