Code No: 07A41102 **R07** **Set No. 2**

II B.Tech II Semester Examinations,APRIL 2011
BIOTRANSDUCERS AND APPLICATIONS
Bio-Medical Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) Explain the principle of an ultrasonic Doppler blood flow meter.
   (b) What are its advantages over other techniques? [8+8]
2. (a) Describe a transducer that can be used to measure angular velocity.
   (b) Describe in detail the piezo electric transducers used to measure acceleration. [8+8]
3. What is scanning beam thermometry system? Explain the working principle behind scanning beam thermometer with a schematic. What are the different applications of scanning beam thermometer? [16]
4. (a) Describe a transducer that can be used to measure angular displacement.
   (b) Describe in detail the piezo electric transducers used to measure displacement. [8+8]
5. (a) Describe on the importance of korotkoff sounds for measuring pressure.
   (b) Explain the method where the pressure is measured with the help of korotkoff sound. [8+8]
6. (a) Explain the principle involved in bioelectric amplifiers.
   (b) describe the differentiator circuit with neat sketch and also derive the output voltage. [8+8]
7. (a) With a neat diagram explain about single channel telemetry system.
   (b) Discuss about biosignal transmitters and receivers. [8+8]
8. (a) Explain a medical instrumentation system with block diagram.
   (b) What are the different types of problems that appear in a practical measurement system? [8+8]

⋆ ⋆ ⋆ ⋆ ⋆

Code No: 07A41102 **R07** **Set No. 4**

II B.Tech II Semester Examinations,APRIL 2011
BIOTRANSDUCERS AND APPLICATIONS
Bio-Medical Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) Explain a medical instrumentation system with block diagram.
   (b) What are the different types of problems that appear in a practical measurement system? [8+8]
2. (a) With a neat diagram explain about single channel telemetry system.
   (b) Discuss about biosignal transmitters and receivers. [8+8]
3. (a) Describe a transducer that can be used to measure angular displacement.
   (b) Describe in detail the piezo electric transducers used to measure displacement. [8+8]
4. What is scanning beam thermometry system? Explain the working principle behind scanning beam thermometer with a schematic. What are the different applications of scanning beam thermometer? [16]
5. (a) Describe on the importance of korotkoff sounds for measuring pressure.
   (b) Explain the method where the pressure is measured with the help of korotkoff sound. [8+8]
6. (a) Explain the principle involved in bioelectric amplifiers.
   (b) describe the differentiator circuit with neat sketch and also derive the output voltage. [8+8]
7. (a) Explain the principle of an ultrasonic Doppler blood flow meter.
   (b) What are its advantages over other techniques? [8+8]
8. (a) Describe a transducer that can be used to measure angular velocity.
   (b) Describe in detail the piezo electric transducers used to measure acceleration. [8+8]

⋆ ⋆ ⋆ ⋆ ⋆

Code No: 07A41102 **R07** **Set No. 1**

II B.Tech II Semester Examinations,APRIL 2011
BIOTRANSDUCERS AND APPLICATIONS
Bio-Medical Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) Describe a transducer that can be used to measure angular velocity.
   (b) Describe in detail the piezo electric transducers used to measure acceleration. [8+8]
2. (a) Describe on the importance of korotkoff sounds for measuring pressure.
   (b) Explain the method where the pressure is measured with the help of korotkoff sound. [8+8]
3. (a) Explain a medical instrumentation system with block diagram.
   (b) What are the different types of problems that appear in a practical measurement system? [8+8]
4. (a) Explain the principle involved in bioelectric amplifiers.
   (b) describe the differentiator circuit with neat sketch and also derive the output voltage. [8+8]
5. (a) Describe a transducer that can be used to measure angular displacement.
   (b) Describe in detail the piezo electric transducers used to measure displacement. [8+8]
6. (a) With a neat diagram explain about single channel telemetry system.
   (b) Discuss about biosignal transmitters and receivers. [8+8]
7. What is scanning beam thermometry system? Explain the working principle behind scanning beam thermometer with a schematic. What are the different applications of scanning beam thermometer? [16]
8. (a) Explain the principle of an ultrasonic Doppler blood flow meter.
   (b) What are its advantages over other techniques? [8+8]

⋆ ⋆ ⋆ ⋆ ⋆

Code No: 07A41102 **R07** **Set No. 3**

II B.Tech II Semester Examinations,APRIL 2011
BIOTRANSDUCERS AND APPLICATIONS
Bio-Medical Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) Explain the principle of an ultrasonic Doppler blood flow meter.
   (b) What are its advantages over other techniques? [8+8]
2. (a) Explain the principle involved in bioelectric amplifiers.
   (b) describe the differentiator circuit with neat sketch and also derive the output voltage. [8+8]
3. (a) Describe a transducer that can be used to measure angular velocity.
   (b) Describe in detail the piezo electric transducers used to measure acceleration. [8+8]
4. (a) Describe a transducer that can be used to measure angular displacement.
   (b) Describe in detail the piezo electric transducers used to measure displacement. [8+8]
5. (a) With a neat diagram explain about single channel telemetry system.
   (b) Discuss about biosignal transmitters and receivers. [8+8]
6. What is scanning beam thermometry system? Explain the working principle behind scanning beam thermometer with a schematic. What are the different applications of scanning beam thermometer? [16]
7. (a) Describe on the importance of korotkoff sounds for measuring pressure.
   (b) Explain the method where the pressure is measured with the help of korotkoff sound. [8+8]
8. (a) Explain a medical instrumentation system with block diagram.
   (b) What are the different types of problems that appear in a practical measurement system? [8+8]

⋆ ⋆ ⋆ ⋆ ⋆