

G 6109



Reg. No.....

Name.....

**M.Sc. (BIO-MEDICAL INSTRUMENTATION) DEGREE
EXAMINATION, JUNE 2023**

Third Semester

BMI 303—BIOSENSORS AND MEDICAL IMAGE PROCESSING

(2016 Admissions onwards — Regular/Supplementary/Mercy Chance)

Time : Three Hours

Maximum : 100 Marks

Part A

*Answer any **five** questions.
Each question carries 10 marks.*

1. Explain about taste sensors and their stimulation.
2. What is the function of baroreceptors in aorta ? Explain.
3. Explain any four displacement transducers.
4. Explain direct and indirect methods of blood pressure measurement.
5. Explain about (a) Photo acoustic sensors ; (b) Radiation thermometry.
6. Explain about single channel data acquisition in biomedical systems.
7. Explain any three applications of MEMS in medical field.
8. What are the image enhancement techniques ? Explain.
9. Explain about image restoration and denoising.

(5 × 10 = 50)

Part B

*Answer any **ten** questions.
Each question carries 5 marks.*

1. Write short note on receptors which are responsible for vision in dark.
2. Write short note on mechanoreceptors.
3. What is chemical thermometry ? Explain.
4. How velocity is measured ? Describe any one transducer.
5. Explain ISFET for glucose sensing.
6. What is photovoltaic transducers ?

Turn over





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7. Write short note on fiber optic sensors.
8. Write short note on MEMS devices.
9. Write short note on biocompatibility of BioMEMS.
10. Write short note on Inverse and Weiner filters.
11. What is image compression ? Explain.
12. Write short note on colour image analysis.

(10 × 5 = 50)

