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Reg. No......

Name.....

**M.Sc. (BIOMEDICAL INSTRUMENTATION) DEGREE EXAMINATION
AUGUST 2026**

Second Semester

BMI 201—BIOMEDICAL EQUIPMENTS – I

(2025 Admission—Regular/2022–24 Admissions—Supplementary / 2021 Admission
– First Mercy Chance / 2020 Admission – Second Mercy Chance /
2019 Admission – Final Mercy Chance)

Time : Three Hours

Maximum Marks : 100

Part A

*Answer any **five** questions.*

Each questions carries 10 marks

1. a) Briefly explain the calibration of any two medical devices. (7)
b) List the different types of analytical and surgical equipments. (3)
2. a) Explain the principle and operation of colorimeter. What are its applications? (6)
b) Explain the principle of operation of spectro photometer. (4)
3. Explain thermography with principle, detecting circuits and its application in medicine. (10)
4. Explain the principle of operation of endoscope and laparoscope. Compare them. (10)
5. Explain the block diagram, the bed-side monitors compare with central station monitors. (10)
6. Explain speech and mask audiometers. Compare them. (10)

(5 × 10 = 50)

Part B

*Answer any **ten** questions.*

Each questions carries 5 marks

1. Differentiate between autoclave and sterrad.
2. Explain the principle of mass spectroscopy.
3. Explain the working of a blood cell counter.
4. Briefly explain the testing of any one biomedical equipment.





F 8565

5. Explain the unipolar limb leads (augmented) configuration for ECG measurement. Compare with unipolar chest leads configuration.
6. Briefly explain auditory and somato-sensory evoked potentials.
7. Explain with principles and applications, the Magneto Encephalography (MEG).
8. Explain cardio scope with applications.
9. Explain time division multiplexing and its application in biotelemetry.
10. Explain the components of a biotelemetry system.
11. Briefly explain the cochlear implants.
12. Explain the principle of densitometers.

(10 × 5 = 50)

