

2403001302030004
EXAMINATION FEBRUARY-MARCH 2024
BACHELOR OF SCIENCE (NCF-NEP)
BIO.TECH (SECOND SEMESTER)
MDC-204 BIOINSTRUMENTATION - LEVEL 3

[Time: As Per Schedule]

[Max. Marks: 50]

Instructions:

1. 1. Fill up strictly the following details on your answer book

a. Name of the Examination : **BACHELOR OF SCIENCE (NCF-NEP) BIO.TECH (SECOND SEMESTER)**

b. Name of the Subject : **MDC - BIOINSTRUMENTATION**

c. Subject Code No : **2403001302030004**

2. Sketch neat and labelled diagram wherever necessary.

3. Figures to the right indicate full marks of the question.

4. All questions are compulsory.

Seat No:

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Student's Signature

Q.1 Short Question/One word answer Any 10 out of 12:

10

- a. Write principle of Bright field microscopy.
- b. Define numerical aperture.
- c. Define magnification.
- d. Write use of Immunofluorescence microscopy.
- e. Full form of SEM and TEM.
- f. Write working principle of fluorescence microscopy.
- g. Define eluent.
- h. What is chromatogram?

- i. Write principle of paper chromatography.
- j. Define centrifugation.

- k. Define effective distribution coefficient.

- l. Enlist rotors of centrifuge.

Q.2 Short note Any One: 10

- a. Compare contrast, bright field microscopy and phase contrast microscopy.
- b. Explain different staining techniques for bright field microscopy.

Q.3 Short note Any One: 10

- a. How drawbacks of fluorescence microscope are overcome by confocal microscope.
- b. Compare contrast fluorescence microscope and confocal microscope.

Q.4 Short note Any One: 10

- a. Write difference between anion exchange resin and cation exchange resin.
- b. Explain how liquid-liquid chromatography was developed by noble laureate Archer JP Martin and Richard Syngé.

Q.5 Short note Any One: 10

- a. Explain different types of centrifuges.
- b. Explain care and maintenance of centrifuge.
