

Total No. of Questions – 10]
(2023)

[Total Pages : 3

4704

M.Sc. Botany (CBS) Ist Semester Examination

TOOLS AND TECHNIQUES IN

BIOLOGICAL SCIENCES

Paper-MBOT-104

(Common with MZOO-104)

Time : Three Hours]

[Maximum Marks : 40

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt *five* questions in all, selecting atleast *two* questions from each Section. All questions carry equal marks. Attempt all parts of question together.

SECTION-A

1. Describe the principle of spectrophotometer and give its applications. (8)
2. Write short notes on :
 - (i) Collection and preservation of animal tissue. (3)
 - (ii) Staining. (3)
 - (iii) Sectioning. (2)

4704/1200/777/23

103 [P.T.O.]

3. Write notes on :

- (i) Cryopreservation of cells. (3)
- (ii) Phase contrast microscopy. (5)

4. Explain the various types of Cell culturing techniques. (8)

5. Write notes on :

- (i) Molecular imaging of Radioactive materials. (5)
- (ii) Types of Radioisotopes. (3)

SECTION-B

6. Brief about :

- (i) Ion exchange chromatography. (4)
- (ii) Gel permeation and affinity. (4)

7. Give a brief account on :

- (i) History of cryotechniques. (4)
- (ii) Tissue preparation for light microscopy. (4)

8. Write notes on :

- (i) Cell harvesting methods. (3)
- (ii) Culture media. (5)

9. Explain :

- (i) Types of culture media. (2)
- (ii) Primary Cell culture. (2)
- (iii) Resolving power of light microscope. (2)
- (iv) Adsorption Chromatography. (2)

10. Explain the method of estimating population density of animals with special emphasis on direct and indirect observations. (8)
