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B.Sc./6th Sem (H)/BOT/23(CBCS)

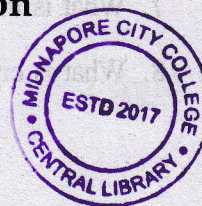
2023

6th Semester Examination

BOTANY (Honours)

Paper : DSE 4-T

[CBCS]



Full Marks : 40

Time : Two Hours

The figures in the margin indicate full marks.

*Candidates are required to give their answers
in their own words as far as practicable.*

[Analytical Techniques in Plant Sciences]

Group - A

Answer any *five* questions. $2 \times 5 = 10$

1. Write the full form of SDS-PAGE and HPLC. 2
2. What is the difference between radioisotope and isotope? 2
3. What is the purpose of cell fractionation? 2
4. What do you mean by marker enzymes? Give example. 1+1
5. Write two applications of spectrophotometer. 2

P.T.O.



(2)

6. What is the importance of chi-square test? Write the formula of chi-square test. 1+1

7. What is the purpose of negative staining? 2

8. What is cryofixation? 2

Group - B

Answer any *four* questions. 5×4=20

9. Write the uses of radioisotopes in biological research.

10. What are the applications of fluorescence microscopy?

11. Explain the differential and density gradient centrifugation.

12. Write the methodology of autoradiography.

13. Write the difference between AGE and PAGE.

14. Write down the working principles of microscopes.

Group - C

Answer any *one* question. 10×1=10

15. Explain the Pulse-Chase experiment. Write the procedure of paper chromatography. 6+4

16. Briefly discuss on the measures of central tendency, mean, mode and median. 10

(3)

OR



[Research Methodology]

Group - A

Answer any *five* questions. 2×5=10

1. What is copy right?

2. Why field research is popular among researchers?

3. What is molal solution?

4. Explain plagiarism.

5. What is field photography?

6. Give the difference between genomics and proteomics.

7. Name the stain used in single staining. Give the example of a basic dye.

8. What is GFP?

Group - B

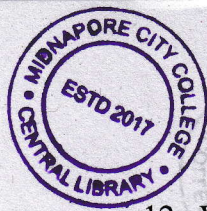
Answer any *four* questions. 5×4=20

9. Why literature review is important in research? What is library research? 3+2

10. What is landscape photography? Mention its uses. 2+3

11. What is 1/3rd law in photography? Differentiate landscape from portrait photography. 2+3

P.T.O.



(4)

12. Why chemical calculations are important in biology research? Give example. 4+1
13. What is dye? What is meant by research ethics? 2+3
14. Name two chemicals used in the preparation of cytological squash. What is fixative? 3+2

Group - C

Answer any *one* question. 10×1=10

15. Write, in brief, about labeling of reagent bottles. What kind of colour bottles are used to keep Bismarck brown and hydrogen peroxide? Differentiate molal solution from normal solution. 6+2+2
16. What is reference style? How many types of reference styles are used to refer the work during research? Name them with example. Why laboratory record is mandatory for any kind of scientific research? Name two softwares used to prepare posters and certificates. 2+2+2+2+2