U.G. 6th Semester Examination-2022

BOTANY

[HONOURS]

Discipline Specific Elective (DSE)

Course Code : BOT-H-DSE-T-04A

(Research Methodology)

Full Marks : 40 Time : $2\frac{1}{2}$ Hours

The figures in the right-hand margin indicate marks.

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

1. Answer any **five** of the following: 2×5=10

   a) Why scale bars are used in microscopic images?

   b) Define molarity and normality.

   c) Mention the difference between hypothesis and theory.

   d) Write down different chemicals needed in Gram staining process.

   e) Write the usefulness of abstract of a scientific journal.

   f) What do you mean by copyright?

   g) Name four toxic chemicals used in laboratory.

   h) During dilute acid preparation, generally acids are added to water but water is not added to the acid. Why?

2. Answer any **two** questions: 5×2=10

   a) During a field study, you observed 150 trees, 200 herbs, 100 shrubs and 50 climbers. Represent this data in pie chart.

   b) How do you prepare 200 ml of 4% formalin from a stock of 34% formalin?

   c) Write the usefulness of "Review of Literature" in a scientific writing.

   d) Write a short note on plagiarism.

3. Answer any **two** of the following questions: 10×2=20

   a) Define stain. Why stains are used in the study of microscopic organisms? Write down the double staining procedure for morpho-anatomical preparation. 1+2+7=10

   b) Define model organism. Name four model organisms used in biological research. Write down the advantages of use of any two such model organisms. 2+2+6=10

c) What do you mean by chemical fixation? Write down the efficacy of the chemical fixation. Enumerate different factors influencing chemical fixation. 1+3+6=10

d) Write short notes on the following techniques: $2\frac{1}{2} \times 4 = 10$

i) Squash Method,

ii) Smear Method,

iii) Whole Mount,

iv) Sectioning Method

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