

2025

M.Sc. 1st Semester Examination

**BIOTECHNOLOGY AND
BIOINFORMATICS**

Paper : BTIO408VC

[Indian Knowledge System (IKS)]

Full Marks : 25

Time : One Hour

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

Group - A

Answer any *two* questions : $2 \times 2 = 4$

1. Identify the specific intersections mentioned in the syllabus where Ayurvedic perspectives on health meet the modern fields of botany and medical science.
2. Define the "holistic approach" to health in Ayurveda and name the three specific domains of well-being it aims to balance.
3. Based on the syllabus, list two traditional systems of environmental sustainability that are relevant to modern resource management or ecological balance.

P.T.O.

(2)

4. State the role of "Yantras" (astronomical instruments) as examples of the early application of Physics and Chemistry in IKS.

Group - B

Answer any *two* questions : $4 \times 2 = 8$

5. Illustrate the relevance of Ayurvedic dietary regimes and disease management principles in the context of modern nutritional biotechnology and metabolic health.
6. Apply the concept of "interconnectedness" between humans and nature (as found in IKS) to explain how it might influence modern biotechnological approaches to environmental conservation.
7. Compare and contrast the diagnostic methods of Ayurveda with modern biochemical diagnostic paradigms, identifying potential areas where they could complement each other in clinical research.
8. Discuss the impact of colonial education policies on the documentation and scientific validation of traditional Indian medicinal practices.

Group - C

Answer any *one* question : $8 \times 1 = 8$

9. Evaluate the multidisciplinary contributions of IKS to modern pharmacology.

(3)

10. Create a framework for a research project that utilises traditional Indian water management or agricultural practices to develop a modern biotechnological solution for soil rejuvenation or wastewater treatment.

Internal Assessment - 5 marks
