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End Semester Examination, December 2024
B.Sc. (Hons.) Agriculture – 1st Semester
INTRODUCTORY BIOLOGY (ASAG109)

Time: 2.5 hrs.

Max Marks: 50

Note: *All Questions are compulsory. Marks are indicated against each question.*

PART-A

Q.1 Attempt any 5 Questions.

(a) Which of the following is the study of the origin and development of life?

- i) Zoology
- ii) Evolution
- iii) Ecology
- iv) Genetics

[CO-1] [L-1] 2

(b) What is the primary difference between mitosis and meiosis?

[CO-3] [L-1] 2

(c) Fill in the blank: The family _____ is commonly known for its cereal crops like wheat and rice.

[CO-2] [L-1] 2

(d) True or False: Seed germination requires the presence of sunlight at the initial stage.

[CO-3] [L-1] 2

(e) What is the term used for the process of converting nitrogen into a form usable by plants?

[CO-2] [L-1] 2

(f) Name the plant family that includes legumes such as peas, beans, and lentils.

[CO-2] [L-1] 2

(g) What is the significance of binomial nomenclature in classification?

[CO-1] [L-2] 2

PART-B

Q.2 Discuss eugenics and its ethical implications in the context of modern biotechnology.

[CO-1] [L-2] 10

OR

Draw the stages of prophase, anaphase of mitosis, meiosis I and meiosis II.

[CO-1] [L-2] 10

Q.3 Discuss the stages of mitosis and explain the significance of each stage in cell division.

[CO-3] [L-2] 10

OR

Describe the process of seed germination and the factors that influence it.

[CO-3] [L-2] 10

Q.4 Draw the structure of the flower. Write the functions of all the parts of the flower.

[CO-2] [L-3] 10

OR

Draw plant cell. Discuss the role of binomial nomenclature in modern taxonomy.

[CO-2] [L-2] 10

Q.5 Describe how animals play a significant role in agriculture, with specific examples.

[CO-4] [L-3] 10

OR

Discuss the role of plants in sustainable agriculture. Explain how plants contribute to soil fertility and ecosystem balance.

[CO-4] [L-3] 10

Answer Key

Part A

(a) Evolution

(b) Mitosis involves a single division, resulting in two identical daughter cells, whereas meiosis involves two divisions, producing four non-identical gametes.

(c) Poaceae

(d) False – Seed germination does not always require sunlight at the initial stage; it primarily requires water, oxygen, and the right temperature.

(e) Nitrogen fixation

(f) Fabaceae

(g) Binomial nomenclature helps provide a universally recognized name for organisms, eliminating confusion from local or common names.