



UNIVERSITY OF NORTH BENGAL

B.Sc. Honours Part-II Examination, 2021

ZOOLOGY

PAPER-V (Syllabus-2015)

Full Marks: 90

ASSIGNMENT

*The questions are of equal value.
The figures in the margin indicate full marks.*

Answer six questions taking one from each unit and rest two from any Units 15 × 6 = 90

UNIT-I

GENETICS

1. State Mendel's laws of inheritance and describe monohybrid and dihybrid crosses giving the list of characters of pea plant chosen by Mendel.
2. Describe molecular mechanism of crossing over based on the Holliday model with appropriate diagrams with a note on the Stern's experiment of cytological evidence of crossing over.
3. Describe briefly the Genic Balance Theory of sex determination in *Drosophila* with a note on the important genes involved.

UNIT-II

BASIC CONCEPTS OF IMMUNOLOGY

4. Elucidate briefly the humoral defence mechanism and describe the classical pathway of Complement activation with a note on phagocytosis.
5. Discuss on the types, structure and functions of the immunoglobulins.
6. Mentioning the different types of hypersensitivity, describe the IgE mediated hypersensitivity.

UNIT-III

ANIMAL PHYSIOLOGY

7. Briefly describe Digestion of carbohydrates, proteins and fats.
8. Describe briefly the events of cardiac cycle.
9. Describe briefly the transmission of nerve impulse along neuron.

UNIT-IV

ENDOCRINOLOGY AND REPRODUCTIVE BIOLOGY

10. Give a detail account of hormones of pituitary gland.
11. Briefly describe the mechanism of hormone action of insulin at the level of cell membrane.
12. Describe briefly the endocrine regulation of Menstrual cycle.

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