



UNIVERSITY OF NORTH BENGAL
B.Sc. Honours Part-III Examination, 2021

ZOOLOGY

PAPER-VIII (SYLLABUS 2015)

Full Marks: 80

ASSIGNMENT

The figures in the margin indicate full marks.

Answer any four questions taking at least one from each of the three Groups 20×4 = 80

GROUP-A

(HISTOLOGY AND HISTOCHEMISTRY)

1. Classify and explain epithelial tissue giving characters and examples and add note on histological structure of skeletal muscle.
2. Why pancreas is known as mixed gland? Describe the detailed histological structure and functions of pancreas.
3. Giving the properties of a good fixative, explain the term additive and non-additive fixatives giving suitable examples. Describe the composition of one fixative each for chromosomal, protozoan and histological tissue fixation and add a note on the structure of a hepatocyte with suitable diagram.

GROUP-B

(DEVELOPMENTAL BIOLOGY)

4. Describe the different stages of fertilization in Sea Urchin with a note on capacitation of sperm.
5. With suitable diagrams describe the process of gastrulation in frog and add comment on 'Grey crescent' and 'mid-blastula transition'.
6. With a suitable diagram elucidate the structure of an egg of chick. Describe the development and function of different extra-embryonic membranes in chick.

GROUP-C

(EVOLUTIONARY BIOLOGY AND PROTECTIVE ADAPTATION)

7. Explain Hardy-Weinberg equilibrium mentioning the factors which can disrupt this equilibrium. Briefly describe the genetic drift with suitable example emphasising on the bottle neck and founder effect.
8. Write an essay on the evolution of modern horse with a note on allometry.
9. Describe different types of protective colouration and the role of colouration on evolution citing example. Differentiate Batesian and Mullerian mimicry.

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