

Use separate answer
script for each group.

B.Sc. (Honours) Examination, 2019

Semester–IV

Zoology

Course – ACT-V (Allied)

(For Back Candidates)

Time: Three Hours

Full Marks: 40

Questions are of value as indicated in the margin.

Answer *any four* questions taking *two* from each group.

Group-A

(Physiology and Endocrinology)

1. Describe the molecular mechanism of ABO system of blood grouping. ‘Bombay phenotype can be transfused blood by another Bombay phenotype’ – explain. 7+3=10
2. Write down the names and functions of different proteolytic enzymes present in pancreatic secretion. 10
3. Name two steroid hormones, their source glands and their effect on the target sites. How hormones act through G-protein coupled receptors? 4+6=10
4. Write short notes on the following (*any four*): $2\frac{1}{2} \times 4 = 10$
 - (a) Erythroblastosis foetalis.
 - (b) Vitamin D.
 - (c) Function of LH and FSH.
 - (d) Pernicious anaemia.
 - (e) Function of bile.

Group-B

(Biotechnology and Molecular Biology)

1. Define vector in recombinant DNA technology. Name the major types of vector used generally. Write about BAC and YAC. $2+4+2+2=10$
 2. Describe any one method for screening of cells that are successfully transformed with foreign DNA. 10
 3. What are the criteria to be fulfilled in order to consider a plasmid as a DNA vector? What do you mean by ‘sticky ends’? What is a cosmid? $6+2+2=10$
 4. Describe with diagram, how a foreign DNA is inserted into a vector to make a chimaeric DNA? Name two restriction enzymes with their respective cutting sequences. $8+2=10$
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