

B.Sc. Part—II (Semester—IV) Examination

ZOOLOGY

(Advanced Genetics and Animal Ecology)

Time : Three Hours]

[Maximum Marks : 80

- Note** :— (1) All questions are compulsory.
 (2) Question No. 1 carries 8 marks and all remaining carry 12 marks each.
 (3) Draw labelled diagrams wherever necessary.

1. (A) Fill in the blanks :

- (i) The phenomenon of co-existence of two or more genes in same chromosome is _____.
 (ii) Chromosomes not concerned with sex are _____.
 (iii) Aestivation is also called as _____.
 (iv) The animals whose body temperature changes with surrounding temperature are called _____.

2

(B) Choose correct alternative :

- (v) Disease Haemophilia is a _____ inheritance type.
 (a) X-linked (b) XY-linked
 (c) Y-linked (d) None
- (vi) Uncontrolled jerking of body occurs in _____.
 (a) Sickle cell anemia (b) Huntington's chorea
 (c) Diabetes (d) Cystic fibrosis
- (vii) The place where freshwater joins the saltwater is called _____.
 (a) Pond (b) River
 (c) Estuary (d) Shore
- (viii) The Karyotype of Klinefelter's syndrome individual is _____.
 (a) 45X (b) 47XXY
 (c) 47X (d) None

2

(C) Answer in **one** sentence each :

- (i) What is a Lethal Factor ?
- (ii) What is Crossing Over ?
- (iii) What are dizygotic twins also called ?
- (iv) What is Parasitism ?

4

2. Describe the following :

- (a) Monohybrid cross.
- (b) Duplicate factor.
- (c) Supplementary factor.

12

OR

- (d) Dihybrid cross.
- (e) Complementary factor.
- (f) Back cross and Test cross.

12

3. Explain the following :

- (g) Types of linkage.
- (h) Breakage and Exchange Theory.
- (i) Inheritance of blood group in Man.

12

OR

- (j) Crossing over.
- (k) Copy choice theory.
- (l) Inheritance of eye colour in Drosophila.

12

4. Describe the following :

- (m) Chromosomal theory of sex determination.
- (n) Gynandromorphs.
- (o) Turner's Syndrome.

12

OR

- (p) Genic balance theory of sex determination.
 - (q) Sickle cell anemia.
 - (r) Klinefelter's syndrome. 12
5. Give an account on kinds of twins and significance of twin study. 12

OR

- Give an account on birth control measures in Female. 12
6. Explain the following :
- (s) Hibernation.
 - (t) Effects of light on Metamorphosis.
 - (u) Photoperiodism. 12

OR

- (v) Aestivation.
 - (w) Photokinesis.
 - (x) Effects of light on Migration. 12
7. Give an account on Lentic and Lotic Ecosystem. 12

OR

Explain the characteristics of Marine ecosystem with special reference to salinity and temperature. 12

