

(o) Birth control measures in Male.

OR

(p) Amniocentesis.

(q) Consanguineous marriages

(r) Gene Probe. 12

6. Give an account of water problems in Aquatic Habitats.

OR

Describe the effect of light with reference to Reproduction, Migration and Metamorphosis in animals. 12

7. Explain the following :—

(s) Food chain.

(t) Ecological pyramid of energy.

(u) Lentic ecosystem.

OR

(v) Food web.

(w) Characteristics of Marine ecosystem.

(x) Lotic ecosystem. 12



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Fourth Semester B. Sc. (Part – II) Examination

4S–ZOOLOGY

(Advanced Genetics and Animal Ecology)

P. Pages : 4

Time : Three Hours]

[Max. Marks : 80

Note : (1) All questions are compulsory.

(2) Question No. **One** carries **8** marks and remaining questions carry **12** marks each.

(3) Draw neat labelled diagram wherever necessary.

1. (A) Fill in the blanks.

(i) Hibernation is also known as ———.

(ii) Exchange of chromosomal segments in homologous chromosomes is called ———.

(iii) Temperature is ——— environmental factor.

(iv) The failure of homologous chromosomes to separate is called ———. 2

(B) Choose correct alternative.

(v) Inheritance of human skin colour depends on ——— pigment.

(a) Haemocyanin (b) Melanin

(c) Haemoglobin (d) bilirubin

(vi) Twins produced from a single zygote are called _____.

- (a) Identical (b) Fraternal
(c) Cotwins (d) Half twins

(vii) In _____ interspecific interaction member of one species eats up those of another species.

- (a) Parasitism (b) Predation
(c) Competition (d) Mutualism

(viii) Genetic counselling is the advise about _____ diseases.

- (a) Brain (b) Genetic
(c) Liver (d) Heart 2

(C) Answer in **one** sentence.

(ix) What is law of segregation also called?

(x) What is the significance of linkage ?

(xi) Define a syndrome.

(xii) What is photoperiodism ? 4

2. Explain Law of Independent Assortment with example.

OR

Describe Inhibitory and lethal factors. 12

3. Describe the following :—

- (a) Linkage group.
(b) Blood group in man.
(c) Mechanism of crossing over.

OR

- (d) Erythroblastosis foetalis.
(e) Meiotic crossing over.
(f) Multiple alleles in relation to eye color in Drosophila. 12

4. Explain the following :—

- (g) Autosomes and sex chromosomes.
(h) Environmental control of sex determination.
(i) Diabetes mellitus.

OR

- (j) Hormonal control of sex determination.
(k) Edward's syndrome.
(l) Alkoptonuria. 12

5. Describe the following :—

- (m) Chorionic vill-Sampling.
(n) Siamese twins.