



M 8190

Reg. No. :

Name :

VI Semester B.Sc. Degree (CCSS – Reg./Supple./Improv.)
Examination, May 2015
CORE COURSE IN ZOOLOGY
6B10 ZLG : Genetics, Molecular Biology and Biotechnology

Time : 3 Hours

Total Weight : 25

SECTION – A
(Genetics)

- I. Answer **any one** of the following : (Weightage 4)
- 1) Give an account of cytoplasm inheritance with examples.
 - 2) What is mutation ? Explain the different types of mutation. Also explain the molecular basis of mutation. (1×4=4)
- II. Answer **any two** of the following : (Weightage 2)
- 3) What is erythroblastosis foetalis ?
 - 4) Describe briefly the hormonal and environmental influence of sex determination.
 - 5) Explain polygenic inheritance citing skin colour in man as an example.
 - 6) What are Barr bodies ? (2×2=4)
- III. Answer **any three** of the following : (Weightage 1)
- 7) Distinguish between back cross and test cross.
 - 8) What are linkage groups ?
 - 9) What are chromosomal aberrations ?
 - 10) Explain Gynandromorphs.
 - 11) What are autosomes and allosomes ? (3×1=3)
- IV. Answer the following : (Weightage 1)
- 12) a) Inheritance of coat colour in rabbit is an example for _____
b) Mutation theory was put forward by _____
c) The appearance of offspring which resemble their remote ancestors is called _____
d) All the genes possessed by an individual constitute its _____ (1×1=1)

P.T.O.



SECTION – B
(Molecular Biology and Biotechnology)

V. Answer **any one** of the following : (Weightage 4)

13) Explain the various steps involved in protein synthesis.

14) Give an account on recombinant DNA technology.

(1×4=4)

VI. Answer **any two** of the following : (Weightage 2)

15) Explain the Operon concept of gene regulation.

16) Describe the various mechanisms involved in DNA repair.

17) Write notes on the application of genetic engineering on human welfare.

18) Explain southern blotting.

(2×2=4)

VII. Answer **any four** of the following : (Weightage 1)

19) What are cistrons ?

20) What are monoclonal antibodies ?

21) Mention any two cloning vectors.

22) What is Central Dogma ?

23) Give a brief account of nucleosome concept of chromatin.

24) Mention any four characteristic features of genetic code.

25) What is gene splicing ?

(4×1=4)

26) Match the following (1 weightage)

a) Wobble hypothesis

virus

b) Okazaki fragments

RNA

c) Southern blotting

cDNA

d) Transduction

DNA segments

Crick

(1×1=1)