K16U 0235

Reg. No. : .....

Name : .....

VI Semester B.Sc. Degree (CCSS – Reg./Supple./Improv.) Examination, May 2016

CORE COURSE IN ZOOLOGY

6B10 ZLG : Genetics, Molecular Biology and Biotechnology

Time : 3 Hours Max. Weightage : 25

SECTION – A
(Genetics)

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

1) Give an account on chromosomal aberrations.

2) Explain cytoplasmic inheritance with examples. **(1×4=4)**

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

3) Describe the genetics of ABO blood groups.

4) Give an account on molecular basis of mutation.

5) Explain the role of Y chromosome in humans in sex determination.

6) Explain polygenic inheritance with an example. **(2×2=4)**

III. Answer **any three** of the following : **(Weightage 1)**

7) What are barrbodies ?

8) Define crossing over. Mention its significance.

9) What are mutagens ?

10) Explain gynandromorphism.

11) Distinguish between backcross and test cross. **(3×1=3)**

P.T.O.

IV. Answer the following : **(Weightage 1)**

12) Name the following :

a) A gene which is present commonly in a population generation after generation.

b) An example for a disease caused by a lethal gene in man.

c) The hypothesis of inactivation of one X chromosome.

d) Father of genetics. **(1×1=1)**

SECTION – B
(Molecular Biology and Biotechnology)

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

13) Describe the various experiments to prove that DNA is the genetic material.

14) Give an account of protein synthesis. **(1×4=4)**

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

15) Give an account on recombinant DNA technology.

16) Explain DNA finger printing.

17) Explain the semi conservative mechanism of DNA replication.

18) Comment on DNA repair. **(2×2=4)**

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

19) What are jumping genes ?

20) Write notes on cloning vectors.

21) What is Wobble hypothesis ?

22) What is somatic cell hybridization ?

23) Mention any 4 applications of genetic engineering on human welfare.

24) Mention the application of Western blotting.

25) What is reverse transcription ? **(4×1=4)**

26) Match the following : **(Weightage 1)**

DNA polymerase	RNA
Plasmid	virus
Northern blotting	DNA
Transduction	Vector
	Kornberg enzyme

(1×1=1)
