



B.Sc. (Semester – V) Examination, October/November 2016
ZOOLOGY

Fundamentals of Animal Biotechnology

Duration : 2 Hours

Total Marks : 80

- Instructions :** 1) **All questions are compulsory.**
2) **Figures to the right indicate maximum marks to the question.**
3) **Illustrate your answer wherever necessary.**

1. Answer briefly **any four** of the following : 16
- a) Justify biotechnology as being a multidisciplinary subject.
 - b) Write a brief note on nutritional types of bacteria.
 - c) Give an illustrated account of gene cloning.
 - d) Write a note on shuttle vectors.
 - e) Enlist the applications of PCR.
 - f) What are plasmids ? Add a note on types of plasmids.
2. Answer briefly **any four** of the following : 16
- a) Write a note on genomic library.
 - b) What is the role of alkaline phosphatases in genetic engineering ?
 - c) State the characteristic features of SV 40 vector.
 - d) Explain the technique of electroporation in gene transfer.
 - e) Enumerate types of labels used in labelling nucleic acids.
 - f) Discuss corrective gene therapy.
3. A) Write an account on reproduction in bacteria. 6
- OR
- A) Explain the role of DNA ligases in genetic engineering. 6
 - B) Give a concise account on cosmids and phagemids. 6

GV-40



4. A) Explain the forward and backward reaction of polynucleotide kinase and add a note on its applications. 6
- OR
- A) Describe the process of gene transfer by retroviral method. 6
- B) Write a note on plaque hybridization. 6
5. A) Discuss the procedure for southern blotting technique. 6
- OR
- A) Explain the steps involved in chromosome walking. 6
- B) Describe the primer extension method of labelling nucleic acid. 6
6. A) Write a note on Automatic DNA sequencer. 6
- OR
- A) Explain Sanger's method of DNA sequencing. 6
- B) Differentiate between somatic and germ line therapy. 6