

B.Sc. Part-II Semester-IV Examination
FORENSIC SCIENCE
(Forensic Biology)

Time : Three Hours]

[Maximum Marks : 80

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

1. (A) Fill in the blanks :
- (i) The term cell was coined by _____. ½
 - (ii) In genetic engineering the chimera is a _____. ½
 - (iii) Rough endoplasmic reticulum is the site of _____. ½
 - (iv) RFLP is used to _____. ½
- (B) Choose correct alternative from the following :
- (v) The deliberate modifications of an organism's genetic information by directly changing its nucleic acid content is a subject matter of _____.
(a) Genetic engineering (b) Population genetics
(c) Microbiology (d) Protein engineering ½
 - (vi) Which of the following is not commonly used as vector ?
(a) Artificial chromosome (b) Cosmid
(c) Fungi (d) Plasmid ½
 - (vii) Enzymes that recognize and cleave specific 4 to 8 base pair sequences of DNA are _____.
(a) DNA ligase (b) Helicases
(c) Restriction endonucleases (d) DNA gyrase ½
 - (viii) RFLP involves :
(a) Used to identify a specific protein (b) DNA
(c) RNA (d) DNA and RNA ½
- (C) Answer in **one** sentence each :
- (ix) Define genomic library. 1
 - (x) Who developed carbon dating technique ? 1
 - (xi) What is Biosurveillance ? 1
 - (xii) What do you mean by sodomy ? 1
2. Describe the following :
- (a) Prokaryotic cell. 4
 - (b) Liquid component of blood. 4
 - (c) E.M. structure of Neuron. 4

OR

3. (p) Receptor organs. 4
(q) Cardiac mechanism. 4
(r) Cell theory. 4
4. Explain Recognition of Biological evidences encountered in various cases. 12
- OR**
5. Explain Biodefence and Bioterrorism. 12
6. Explain in brief :
- (a) R-DNA technology by bacterial transformation method. 4
(b) Southern blotting. 4
(c) Vaginal fluid and urine as a source of investigation. 4
- OR**
7. (p) Western Blotting. 4
(q) Blood groups. 4
(r) Human hair morphology. 4
8. Describe the following :
- (a) Estimation of age and sex. 4
(b) Facial reconstruction. 4
(c) VNTR. 4
- OR**
9. (p) Estimation of time since death. 4
(q) Asphyxia. 4
(r) RAPD. 4
10. Explain in detail – Estimation of time of death with forensic entomology. 12
- OR**
11. Techniques for dating specimens using plant material and dendrochronology. 12
12. Describe the following :
- (a) Write the difference between hair of human and other animal. 4
(b) How will you identify the pugmarks of various animals (give suitable examples). 4
(c) Anthropological artefacts 4
- OR**
13. (p) Write the difference between Bone of human and other animal. 4
(q) Identification of teeth of wild animal by modern method. 4
(r) Genetics of ABO. 4