

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

Time : Three Hours]

[Maximum Marks : 80

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

1. (A) Fill in the blanks :

- (i) The membrane around the vacuole is called _____ $\frac{1}{2}$
 (ii) In the cell cycle replication of the genome occurs in the _____ phase. $\frac{1}{2}$
 (iii) Plasma cell is produce by _____ $\frac{1}{2}$
 (iv) The set of DNAs generated by using random primers in a PCR reaction is called _____ $\frac{1}{2}$

(B) Choose correct alternative from the following :

- (v) Which of the following is obtained using processed m-RNA molecules as a template ? $\frac{1}{2}$
 (a) r-DNA (b) m-DNA
 (c) c-DNA (d) t-DNA
 (vi) Which type of restriction endonuclease cuts the DNA within the recognition site ? $\frac{1}{2}$
 (a) Type - I (b) Type - II
 (c) Type - III (d) All of these
 (vii) A reliable evidence of sex identification is : $\frac{1}{2}$
 (a) External sexual characters (b) The level of sex hormones
 (c) Presence of ovary or testis (d) Sexual behaviour.

- (viii) Red scars or burns stay upto : ½
- (a) 21 days (b) One month
- (c) Two months (d) Four months
- (C) Answer in one sentence :
- (ix) How many amino acids are coded by genetic code _____ ? 1
- (x) What is Biodefence ? 1
- (xi) Which is the body's largest blood vessel ? 1
- (xii) Which biological evidences contains DNA ? 1
2. Describe the following :
- (a) Cell envelop of prokaryotic cell 4
- (b) Myosin and actin 4
- (c) Properties of Neuron. 4
- OR**
3. (p) Neuromuscular junction 4
- (q) E.M. structure of neuron (diagram only) 4
- (r) Types of Leukocytes. 4
4. Give details about packaging and storing of Biological evidence. 12
- OR**
5. Explain tracking biological evidence and chain of custody. 12
6. Explain in details R-DNA technology and its applications in health. 12
- OR**
7. Explain Human and Animal hair morphology and its application in forensics. 12
8. Describe the following :
- (a) Forensic odontology 4
- (b) Drowning 4
- (c) Y-STR 4
- OR**
9. (p) RFLP 4
- (q) Bitemark analysis 4
- (r) Skeletal system & bone formation. 4

10. Write in brief :
- (a) Various technique for dating specimens using plant 4
 - (b) Life cycle on Blow fly 4
 - (c) Dendrochronology 4

OR

11. Give an account of :
- (p) Use of spores for crime investigation 4
 - (q) Life cycle of Flesh fly 4
 - (r) Applications of forensic palynology. 4
12. Describe the following :
- (a) Genetics of Rh and Mn system 4
 - (b) Skin and fur identification 4
 - (c) Confiscated bird goods. 4

OR

13. Describe in brief :
- (p) Determination of human origin from body tissues 4
 - (q) Identification of flower and plants by modern methods. 4
 - (r) Anthropological Arte facts. 4

