

M.Sc Sem-3 Examination**501****Forensic Science (Fore Bio)****November-2024****Time : 2-30 Hours]****[Max. Marks : 70****Ques.1 Answer the following questions:**

- i. Describe the functions of the digestive and endocrine systems, and discuss how these systems can be relevant in forensic examinations. 7Marks
- ii. Outline the standard procedures for collecting, packaging, and forwarding biological evidence from a crime scene. 7Marks

OR

- i. What is ultracentrifugation? Discuss in detail. 7Marks
- ii. Write a detailed note on the forensic examination of blood. 7Marks

Ques.2 Answer the following questions:

- i. Explain how microscopic examination of hair can be used to determine its origin, race, and body site. 7Marks
- ii. Discuss the forensic techniques used for the identification and comparison of fibers, focusing on optical properties like fluorescence, refractive index, and birefringence. 7Marks

OR

- i. Explain fabrics and cordage. Give forensic examination of fabric and cordage in detail. 7Marks
- ii. Write a detailed note on the forensic examination of semen, also write the forensic significance of semen 7Marks

Ques.3 Answer the following questions:

- i. Write short note on structures of DNA. 7Marks
- ii. Write short note on basic concepts of enzyme kinetics. 7Marks

OR

- i. Discuss about ELIZA and its types. 7Marks
- ii. Explain restriction fragment length polymorphism technique. 7Marks

Ques.4 Answer the following questions:

- i. What are the differences between wildlife sanctuaries and national parks under the Wildlife Protection Act, 1972? 7Marks
- ii. Explain the role of forensic entomology in determining the post-mortem interval (PMI), and discuss the methods used to estimate PMI using insect evidence. 7Marks

OR

- i. Explain identification characteristics of Monocotyledons and Dicotyledons. 7Marks
- ii. Discuss on forensic analysis of Pollen. 7Marks

Ques.5 Attempt any seven out of twelve.

14Marks

1. Define Gene and Genome.
2. What are different types of antibody?
3. Write the difference between Phenotype and Genotype.
4. Write two differences between menstrual blood and venous blood.
5. Name two key differences between natural and man-made fibers.
6. How mtDNA is different from nuclear DNA?
7. What are the main objectives of the Wildlife Protection Act?
8. What is palynology? Explain.
9. Name two hormones produced by the endocrine system.
10. What are the primary insects studied in forensic entomology?
11. Write about cell wall of diatoms in brief.
12. What forensic technique is commonly used to identify saliva stains?
