

PARUL UNIVERSITY
FACULTY OF APPLIED SCIENCE
M.Sc. Summer 2018-19 Examination

Semester: 2
Subject Code: 11207153
Subject Name: Forensic Biology

Date: 05/04/2019
Time: 10:30am to 1:00pm
Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1. A) Essay type/ Brief note (4x2) (Each of 04 marks) (08)

- (a) Compare and contrast between mitochondrial and genomic DNA
- (b) Differentiate between innate and acquired immunity

Q.1. B) Answer the following questions (Any two)

- (a) Comment on the various techniques that can be used to solve disputed paternity cases. (04)
- (b) Short note: Biochemical differences between human and non human hair (04)
- (c) Short note: Types of immunoglobulins. (04)

Q.2. A) Answer the following questions.

- (a) Define with examples (04)
 1. Antigen
 2. Serological reagents
- (b) Explain the various parameters to be analyzed to identify if a fiber sample collected at the crime scene is man made or artificial. (04)

Q.2. B) Answer the following questions (Any two)

- (a) Draw an animal cell with appropriate labels. (03)
- (b) Short note: forensic significance of lectins (03)
- (c) Short note: Agarose gel electrophoresis (03)

Q.3. A) Essay type/ Brief note (4x2) (Each of 04 marks) (08)

- (a) Explain the significance of wildlife forensics.
- (b) Discuss the chemical properties of blood

Q.3. B) Answer the following questions (Any two)

- (a) Draw a flowchart depicting destruction of RBCs (04)
- (b) Explain how you would confirm that a sample taken from a crime scene is human blood. (04)
- (c) Short note: Identification and comparison of diatoms (04)

Q.4. A) Answer the following questions.

- (a) Define (04)
 1. Rh factor
 2. Universal donor blood group
- (b) Short note: saliva composition (04)

Q.4. B) Answer the following questions (Any two)

- (a) Comment on pollen identification and how it helps forensic analysis (03)
- (b) Name various methods for identification of semen stains. (03)
- (c) List out the various types of WBCs (03)

