

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

**Semester:1**  
**Subject Code: 11207103**  
**Subject Name: Forensic Physics**

**Date: 06/04/2019**  
**Time: 10:30 am to 1:00 pm**  
**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) Answer the following questions. (Each of 04 marks) (08)**
- (a) Give the types of tool marks. Write a note on forensic examination of tool marks.
  - (b) Explain different types of glass and their composition.
- Q.1. B) Answer the following questions. (Any two) (04)**
- (a) Attempt the following questions. (Each of 02 marks) (04)
    1. How one can identify the molecular particle size of soil?
    2. What is birefringence?
  - (b) Explain the different types of fiber. Write a note on forensic aspects of fiber examination. (04)
  - (c) Write a short note on microscopic examination of soil. (04)
- Q.2. A) Answer the following questions. (04)**
- (a) Attempt the following questions. (Each of 02 marks) (04)
    1. Explain the bromoform test.
    2. What is a hackle mark?
  - (b) Explain the method of restoration of erased marks on wood and leather. (04)
- Q.2. B) Answer the following questions. (Any two) (03)**
- (a) Attempt the following questions. (Each of 01 marks) (03)
    1. Which instrument is used to study the crystalline structure of glass?
    2. Write down the name of solution used in density gradient tube.
    3. Hemp is which type of fiber?
  - (b) Explain different types of glass fractures. (03)
  - (c) Explain the use of pyrolysis gas chromatography in examination of paint samples. (03)
- Q.3. A) Answer the following questions. (Each of 04 marks) (08)**
- (a) Write a note on- Soil as Forensic evidence.
  - (b) How can you interpret the fiber evidence found on crime scene?
- Q.3. B) Answer the following questions. (Any two) (04)**
- (a) Attempt the following questions. (Each of 02 marks) (04)
    1. Give the process of recording of restored marks.
    2. Write down the composition of mortar.
  - (b) Explain the test used to detect adulteration in cement. (04)
  - (c) Write a short note on class and individual characteristics of tool marks. (04)
- Q.4. A) Answer the following questions. (04)**
- (a) Attempt the following questions. (Each of 02 marks) (04)
    1. Explain the turbidity test of soil.
    2. Mention the different fabric types.
  - (b) Write a note on forensic analysis of glass evidences. (04)
- Q.4. B) Answer the following questions. (Any two) (03)**
- (a) Attempt the following multiple choice questions. (Each of 01 marks) (03)
    1. For the identification of the vehicle component of the paint ..... is used.
 

(A) Infra- red spectroscopy	(B) UV spectroscopy
(C) Pyrolysis gas chromatography	(D) Mass spectroscopy.
    2. Borosilicate glass is also known as.....
 

(A) Safety glass	(B) Pyrex glass
(C) Laminated glass	(D) Toughened glass
    3. From the following ..... is not a type of tool marks.
 

(A) striated marks	(B) compression marks
(C) repeated marks	(D) extraction marks
  - (b) Write down the points of differences between natural fiber and manmade fiber. (03)
  - (c) Explain the density gradient method of soil examination. (03)