

B.Sc.(FS) Semester - 5 (CBCS) Examination**Oct/Nov. – 2019****FORENSIC PHYSICS (CORE)****Time: 2:30 Hours****Marks: 70****Instructions:**

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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Q1 (A) Answer in short:**(04)**

1. What ingredient of Pyrex glass makes it temperature tolerant?
2. What is added to glass to give it a red shade?
3. What is present in the A horizon of soil?
4. Which chemicals are used for density gradient analysis of soil?

Q1 (B) Answer any one in brief:**(03)**

1. Explain the process of manufacturing soda lime glass.
2. Mention different horizons and materials found in them.

Q1 (C) Answer any one in detail:**(07)**

1. Write a note on density gradient analysis of soil.
2. Explain methods used for measurement of refractive index of glass.

Q2 (A) Answer in short:**(04)**

1. What are repetitive marks?
2. Define yaw marks.
3. What are skid marks?
4. What is indicated by direction line?

Q2 (B) Answer any one in brief:**(03)**

1. Explain the process of determining direction of vehicle from tire marks.
2. Explain striagraphy.

Q2 (C) Answer any one in detail:**(07)**

1. Write a brief note on analysis of tool marks.
2. Explain the process of casting footprints and mention materials used for casting.

Q3 (A) Answer in short:**(04)**

1. Define fiber.
2. Which protein is present in fibers which turn orange on adding HNO_3 ?
3. What type of fiber is asbestos?
4. What is a sure sign of accidental short circuiting in a wire or a cable?

Q3 (B) Answer any one in brief:**(03)**

1. Write a note on destructive tests for analysis of fibers.
2. Explain physical matching of broken objects.

Q3 (C) Answer any one in detail:**(07)**

1. Draw a flow chart for types of fibers.
2. Write a note on analysis of counterfeit coins.

- Q4 (A) Answer in short:** (04)
1. What is meant by closed test?
 2. At least how many times a control voice sample should be recorded?
 3. What kind of biometric is voice?
 4. Which software is used for automatic analysis of voice samples?
- Q4 (B) Answer any one in brief:** (03)
1. Explain intra speaker variation in brief.
 2. Write a note on segregation of voice samples.
- Q4 (C) Answer any one in detail:** (07)
1. Explain the process of semi-automatic voice analysis in detail.
 2. Explain voice production theory.
- Q5 (A) Answer in short:** (04)
1. What is the focal length of telephoto lens?
 2. What is meant by pixel?
 3. Which color sensor is used twice in a digital camera?
 4. What is the function of binder in paint?
- Q5 (B) Answer any one in brief:** (03)
1. Mention the instruments used for analysis of paint with their respective purposes.
 2. Mention different types of lenses along with their respective focal lengths.
- Q5 (C) Answer any one in detail:** (07)
1. Write a note on developing of photographs.
 2. Explain the layers of paints used for coating the cars.
