

B.Sc. Semester - 5 (CBCS) Examination

December -2020 (NEW COURSE)

Forensic Physics (Core)

Time: 1:30 Hours

Marks: 42

Instructions:

1. Figures to the right indicate marks.
2. There are five questions in the question paper.
3. Answer any three of the following questions.

Q – 1 (A) Objective type questions:

4

1. The 3-R rule is related with glass. True or false?
2. Which physical characteristic of glass is measured with the help of hot stage Microscope.
3. Define soil.
4. Give the full form of DTA.

Q – 1 (B) Answer in detail (Any 1 out of 2)

3

1. Define glass and write a note on physical matching of glass.
2. Short note on soil formation. Explain the density gradient tube method for forensic soil analysis.

Q – 1 (C) Write a note on (Any 1 out of 2)

7

1. Describe glass fractures with labeled figure.
2. Mention the physical methods, chemical test and techniques which are useful for the analysis of soil.

Q – 2 (A) Objective type questions:

4

1. Types of toolmarks.
2. Which information obtained from the gait pattern?
3. In which instrument, a delicate probe moves over the surface to scanned a change in the depth and alivaiton of tool marks?
4. Wheel with lower profile aspect ratio is flatter and wider .Is it true?

Q – 2(B) Answer in detail (Any 1 out of 2)

3

1. Define tool mark impression and principle of tool mark analysis And write a note on types of tool marks.
2. Describe the parameters which are used in gait pattern analysis.

Q – 2 (C) Write a note on (Any 1 out of 2)

7

1. How one can determine the turning diameter of a vehicle and speed of vehicle from skid marks?
2. Define sunkan foot prints, describe the POP casting procedure for it and List out the qualities of casting materials.

Q – 3 (A) Objective type questions

4

1. Fry's reagent is used as etchant for which surface?
2. Use of tensilometer in forensic physics Lab.
3. Instrument used in forensic physics division.
4. Types of fiber on the basis of their origin.

Q – 3 (B) Answer in detail (Any 1 out of 2)

3

1. Write a note on "Forensic examination of seals".
2. How can we do physical matching of broken edges and forensic significance of it.

Q – 3 (C) Write a note on (Any 1 out of 2)

7

1. Classification of fiber and primary forensic examination of it.
2. Define counterfeit coins and examination of it.

Q – 4 (A) Objective type questions

4

1. What is the ratio of comparison in forensic speaker identification?
2. Give the full form of EER, which relates to spectrogram of speech.
3. Define Text dependent speaker analysis.
4. Human vocal cord starts from _____ and end to _____.

Q – 4 (B) Answer in detail (Any 1 out of 2)

3

1. Explain the mechanism of production of frequencies in vocal cord.
2. What is the value of average fundamental frequency of Men, Women and Children?

Q – 4 (C) Write a note on (Any 1 out of 2)

7

1. Write a note on "Forensic speaker recognition"
2. What is speech enhancement and purpose of it and methods used for speech enhancement.

Q – 5 (A) Objective type questions

4

1. Which chemicals are there in emulsion layer of photographic paper?
2. Which light source is used for the photography of charred document?
3. SLR stands for _____ in photography.
4. Which lens has varying focal length between fixed limit?

Q – 5 (B) Answer in detail (Any 1 out of 2)

3

1. Define : (i) Exposure, (ii) Aperture, (iii) Depth of field
2. What is the use of light source in photography? Discuss different types of light source used for crime scene photography.

Q – 5 (C) Write a note on (Any 1 out of 2)

7

1. Write a note on types of camera and lenses
2. Write a note on main components of paint and examination of paint evidence.
