

B.Sc.(FS) Semester - 5 (CBCS) Examination**Oct/Nov. - 2018****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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- Q-1(A) Objective type questions (Any Four) (04)
- (1) Give the full form of DTA.
 - (2) The ultimate value of soil as evidence is dependent on its variation at the crime scene. Is it true or not?
 - (3) Define Density.
 - (4) Which physical characteristic of glass is measured with the help of hot stage Microscope?
 - (5) Instrumental methods used for the forensic examination of soil.
- Q-1(B) Answer in detail (Any 1 out of 2) (03)
- (1) Write a note on soil profile.
 - (2) Write a note on glass fractures.
- Q-1(C) Write a note on (Any 1 out of 2) (07)
- (1) Methods used to measure the density of glass.
 - (2) Deascribe pedogenesis. Which precautions should be taken while preserving and collecting the soil sample as evidence?
- Q-2(A) Objective type questions (Any Four) (04)
- (1) What is casting?
 - (2) Wheel with lower profile aspect ratio is flatter and wider. Is it true?
 - (3) Which information obtained from the gait pattern?
 - (4) What are class characteristics?
 - (5) In which instrument, a delicate probe moves over the surface to scanned a change in the depth and alivaiton of tool marks?
- Q-2(B) Answer in detail (Any 1 out of 2) (03)
- (1) Define tool mark impression and principle of tool mark analysis and write a note on types of tool marks.
 - (2) How one can determine the turning diameter of a vehicle and speed of vehicle from skid marks?
- Q-2(C) Write a note on (Any 1 out of 2) (07)
- (1) Describe the parameters which are used in gait pattern analysis and Describe casting procedure.
 - (2) Analysis of tool marks.

- Q-3(A) Objective type questions (Any Four) (04)
- (1) Fry's reagent is used as etchant for which surface?
 - (2) Use of tensilometer in forensic physics Lab.
 - (3) Types of fiber on the basis of their origin.
 - (4) Common use of etching procedure.
 - (5) Which solution is used as etching reagent for brass and copper?
- Q-3(B) Answer in detail (Any 1 out of 2) (03)
- (1) Write a note on etching procedure and list out the etching reagent.
 - (2) Describe etching procedure and list out the different etching reagent for different surface.
- Q-3(C) Write a note on (Any 1 out of 2) (07)
- (1) Classification of fiber and its forensic examination.
 - (2) Forensic examination of seal and coin.
- Q-4(A) Objective type questions (Any Four) (04)
- (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) Methods for the examination of video tape.
 - (4) Methods for the alteration of video tape.
 - (5) Define text dependent speaker analysis.
- Q-4(B) Answer in detail (Any 1 out of 2) (03)
- (1) Write a note on analogue to digital signal conversion of speech.
 - (2) Which information obtained from the speech sample? Define open test, close test and discrimination test?
- Q-4(C) Write a note on (Any 1 out of 2) (07)
- (1) Define voice and speech and describe the speech production in human beings.
 - (2) Voice is biometrics or not? Why? Write a note on challenged faced by expert during forensic speaker recognition.
- Q-5(A) Objective type questions (Any Four) (04)
- (1) Which chemicals are there in emulsion layer of photographic paper?
 - (2) Types of crime scene photograph.
 - (3) Types of camera.
 - (4) Instruments used for the forensic analysis of paint.
 - (5) Different light source used in forensic photography.
- Q-5(B) Answer in detail (Any 1 out of 2) (03)
- (1) Define: (i) Exposure, (ii) Aperture, (iii) Depth of field
 - (2) Discuss the photographic materials which are used to make photographic film.
- Q-5(C) Write a note on (Any 1 out of 2) (07)
- (1) What is the photography and crime scene photography? What is the purpose of crime scene photography? Give the full form of CCD and CMOs, which relates to photography
 - (2) Write a note on types of camera and lenses
