

M.Sc.(FS) Semester - 3 (CBCS) Examination
Oct/Nov-2022 (NEW COURSE)
Forensic Engineering (Core)

Time: 2:30 Hours**Marks: 70****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

Q.1(A) Answer all questions in short: (04)

1. Record cement composition? Rank the OPC by rank.
2. Identify the physical and chemical features of a good quality brick.

Q.1(B) Answer any two questions out of three: (10)

1. Briefly describe the standard consistency test for cement and its importance in civil legal engineering.
2. To what extent are eyewitnesses very helpful during a judicial engineering investigation.
3. Prepare a note indicating that there is no water quality for the construction of a building in accordance with the IS standard.

Q.2(A) Answer all questions in short: (04)

1. Describe the duties and responsibilities of the first officer at an accidental crime scene?

Q.2(B) Answer any two questions out of three: (10)

1. What are the main causes of crashes? Explain it briefly
2. Explain crime scene photography tactics for the situation of hit-and-run accidents.
3. How skid marks and tyre prints might be useful in hit-and-run cases. List its forensic significance as well.

Q.3(A) Answer in short: (04)

1. What did you learn about the material selection flaws error in failure of machinery?

Q.3(B) Answer any two questions out of three: (10)

1. Explain briefly the main steps of machinery failure investigation.
2. Describe machine classification
3. What do you know about machine design failure? Use an example to demonstrate.

Q.4(A) Answer in short: (04)

1. What's the distinction between rapid and spontaneous combustion?
2. What are the implications of irregular fire patterns?

Q.4(B) Answer any two questions out of three: (10)

1. Give a brief explanation of the methods used in arson sampling.
2. What kind of movement pattern generation process is used?
3. Describe the various combustion reactions.

Q.5(A) Answer in short: (04)

1. Describe high explosives and provide instances
2. Describe air blast. What is the air blast threshold at the blasting site?

Q.5(B) Answer any two questions out of three: (10)

1. Assume you are investigating a crime scene involving an explosion. What kinds of common evidence might you find?
2. How might a ground vibration at a blasting site be noticed and what does it mean?
3. Write a comment about how explosive materials are classified.
