647510 **MSC3FScC304x** **Seat No :_____**

M.Sc.(FS) Semester - 3 (*CBCS*) Examination
Oct/Nov-2021 (NEW COURSE)
Forensic Engineering (Core)

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

Instructions:

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

Que.1(A) **Answer all questions in short:** **(4)**

1. What is the full form of OPC? Classify OPC according to grade.
2. Write composition of bricks and their size according to ISO standard.

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

1. Briefly explain the slum test for concrete and its significance in forensic civil Engineering.
2. How eyewitness is very useful during forensic engineering investigation?
3. Write a note on quality of water for building construction as per IS standard.

Que.2(A) **Answer all questions in short:** **(4)**

1. Explain the duties and responsibilities of First Responding Officer in accident type of crime scene.

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

1. Briefly explain about the primary causes of accidents (motor vehicle accident)
2. Imagine yourself as an investigator and explain about the photography of accidental types of crime scene
3. What is skid marks? How it would helpful to investigate hit and run types of cases?

Que.3(A) **Answer in short:** **(4)**

1. What do you understand about material selection deficiencies error in machinery failure?

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

1. Briefly explain the main steps of machinery failure investigation.
2. Explain the classification of machines
3. What do you understand about design failure in machine? Explain it with example.

Que.4(A) **Answer in short:** **(4)**

1. What is the difference between rapid and spontaneous combustion?
2. What is the significance of irregular types of fire patterns?

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

1. Briefly explain the sampling techniques for arson types of crimes.
2. How the movement type of pattern is generated?
3. Explain different types of combustion reactions.

Que.5(A) **Answer in short:** **(4)**

1. What are high explosives? Explain it with examples
2. What is air blast? What is the limit of air blast at blasting site?

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

1. Imagine that you are investigating an explosion type of crime scene: what are some common evidences you would recover?
2. What is a ground vibration and how it would be detected at blasting site?
3. Briefly explain about Griess test and Nessler's test of explosive residue.

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