

SEC- : Basic Forensic science: crime scene investigation and evidence collection**CREDIT DISTRIBUTION, ELIGIBILITY, AND PRE-REQUISITES OF THE COURSE**

| Course title & Code | Credits | Credit distribution of the course | | | Eligibility criteria | Pre-requisite of the course (if any) |
|------------------------|---------|-----------------------------------|----------|---------------------|----------------------|--------------------------------------|
| | | Lecture | Tutorial | Practical/ Practice | | |
| Basic Forensic science | 2 | | | 2 | Class XII | - |

Learning Objectives

Forensic science is an essential part of the criminal and civil justice system. Forensic scientists collect and analyze evidences from crime scene and elsewhere. The objective of this analysis is to provide data that can assist in criminal or civil investigation, so that prosecution of suspects of the crime is done or an innocent person is cleared off the crime beyond any reasonable doubt. The specific objectives of this course are as follows:

- To provide an understanding of the sanctity of crime scene
- To understand collection and preservation of forensic evidence.

Learning outcomes

The Learning Outcomes of this course are as follows:

- Comprehend the developments in the field of forensic sciences; learn to observe a crime scene for identification of relevant evidences and samples for forensic analysis.
- Understand the importance of collection, packaging and preservation of samples to ensure reliability of data generated.

Skill development and job opportunities

- After completion of this course students would obtain the training in collection, documentation, and analysis of physical evidences. They will be encouraged to do short internships in police station, forensic laboratories and research institutes.
- The students will also able to take a job in a forensic laboratories or police station even after completing a one-year course as they are able to collection, preservation and documentation of evidence, drawing a crime scene and doing preliminary analysis at crime scene.

SYLLABUS OF SEC-

Unit 1: Basic Forensic

1 week

Introduction, need, scope and Significance of forensic science, History, laws and basic principles of forensic science. Branches of forensic science. Organizational set up of forensic science laboratories.

Practical Exercise

- Understanding a crime using case studies.

Unit 2: Crime scene investigation

6 weeks

Definition, Identification, Mapping, and preservation of a crime scene, Classification in a crime scene. Precautions to ensure credibility of a crime scene. Investigative strategies and eye witness report.

Practical exercises:

- Drawing a crime scene.
- Drawing and mapping a crime scene of an unusual case (fire, blast, water)
- Case studies in different indoor and outdoor primary and secondary crime scenes
- Documenting and reconstructing a crime scene.
- Virtual exercise / field trip to a crime scene

Unit 3: Forensic evidences

8 weeks

Definition of a forensic evidence. Classification based on legal and forensic value Understanding chain of custody. Collection, Preservation, Packaging, and Labeling of chemical, physical evidence and biological evidence (blood, semen and other biological fluids, hair, fibers and fabrics, pollen) for forensic investigation.

Practical exercises:

- Collection and preservation of a fresh and dried body fluid sample
- Collection of tissues post mortem.
- Collection of a trace evidence like hair, fiber and pollen from crime scene and during autopsy
- Collection and preservation of a soil sample from crime scene and during autopsy
- Collection of a hand or foot print, tyre-print, fingerprint
- Collection and preservation of evidence for chemical/ballistic analysis.

Essential/ recommended readings

- James, S.H., Nordby, J.J. & Bell, S. (2014). *Forensic Science: An Introduction to Scientific and Investigative Techniques, Fourth Edition*: Taylor & Francis. ISBN 9781439853832
- Jones, P., & Williams, R.E. (2009). *Crime Scene Processing and Laboratory Workbook First Edition*: CRC Press. ISBN 9780429249976

- Saferstein, R. (2018). *Criminalistics: An Introduction to Forensic Science, Twelfth edition*: Pearson Education. ISBN 10:0134477596, ISBN 13: 9780134477596
- Lee, H., Palmbach, T. & Miller, M. (2001). *Henry Lee's crime scene handbook, First Edition*: Academic Press ISBN 9780080507989
- Parikh, C.K. (2016). *Parikh's textbook of medical jurisprudence, forensic medicine and toxicology: for classrooms and courtrooms, Seventh Edition*: CBS Publishers and Distributors. ISBN 9788123926469

Note: Learners are advised to use the latest edition of readings.

Examination scheme and mode:

Total Marks: 50

Internal Assessment: 25 marks

Practical Exam (Internal): 25 marks

The Internal Assessment for the course may include Class participation, Assignments, Class tests, Projects, Field Work, Presentations, amongst others as decided by the faculty.