



YENEPOYA

(DEEMED TO BE UNIVERSITY)

Recognized under Sec 3(A) of the UGC Act 1956

Accredited by NAAC with 'A' Grade

YENEPOYA INSTITUTE OF ARTS, SCIENCE, COMMERCE AND MANAGEMENT

PROGRAM AND COURSE OUTCOMES

UNDERGRADUATE PROGRAM

B.Sc.(Hons) FORENSIC SCIENCE

ATTESTED


Dr. Gangadhara Somayaji K.S.
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PROGRAM OUTCOMES

UNDERGRADUATE PROGRAM

B.Sc.(Hons) FORENSIC SCIENCE

(K=Knowledge, S=Skill, A=Attitude)

- PO 1 To emphasize the importance of scientific methods in crime detection.(K)
- PO 2 To disseminate information on the advancements in the field of forensic science. (K,S)
- PO 3 To highlight the importance of forensic science for perseverance of the society. (K,S)
- PO 4 To review the steps necessary for achieving highest excellence in forensic science. (K,S)
- PO 5 To generate talented human resource, commiserating with latest requirements of forensic science.(K,S,A)
- PO 6 To provide a platform for students and forensic scientists to exchange views, chalk-out collaborative programs and work in a holistic manner for the advancement of forensic science.(K,S,A)
- PO 7 To communicate effectively through oral and written means. (S,A)
- PO 8 To engage in continuous research and education to take part in lifelong learning of the subject. (K,S,A)
- PO 9 To be able to use and apply modern tools, techniques and skills in forensic investigations. (K,S)
- PO 10 To develop the skill to critically evaluate and interpret information from books, research studies, scientific reports, journals, case studies and the internet. (K,S, A)
- PO 11 To critically interpret data, write reports and apply the basics of rules of evidence.(K,S)
- PO 12 To evaluate forensic investigation methods and laws relevant to forensic science.(K,S)

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COURSE OUTCOME
UNDERGRADUATE PROGRAM
B.Sc.(Hons) FORENSIC SCIENCE

SEMESTER I

Name of CO INTRODUCTION TO FORENSIC SCIENCE

- CO 1 The student will be able to describe the fundamental principles and functions of forensic science and its significance to human society.
- CO 2 The student will be able to illustrate the divisions in a forensic science laboratory.
- CO 3 The student will understand the working of the forensic establishments in India and abroad.

CRIME AND SOCIETY

- CO 1 The student will be able to explain the importance of criminology and causes of criminal behavior
- CO 2 The student will be able to analyse the significance of criminal profiling in alleviating crimes
- CO 3 The student will be able to demonstrate an understanding of the elements of criminal justice system and the consequences of crime in society

ENVIRONMENTAL STUDIES

- CO 1 The student will develop critical thinking skills in relation to environmental affairs
- CO 2 The student will be able to demonstrate an integrative approach to environmental issues with a focus on sustainability
- CO 3 The student will be able to demonstrate an awareness, knowledge and appreciation of the intrinsic values of ecological processes and communities.

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PHYSICS

- CO 1 The student will be able to explain the concepts involving properties of waves including electromagnetic waves and sound waves.
- CO 2 The student will be able to describe the concepts involving Uncertainty Principle, Bohr atom and Quantum Mechanical model of atom
- CO 3 The student will understand the concepts of elasticity and thermal conductivity

SEMESTER II

CRIMINAL LAW

- CO 1 The student will be able to explain the concepts involving elements of Indian Penal Code, Criminal Procedure Code and Indian Evidence Act related to forensic science.
- CO 2 The student will be able to elucidate on the acts and provisions of the Constitution of India related to forensic science.
- CO 3 The student will be able to understand the acts governing socio-economic crimes and environmental crimes.

FORENSIC PSYCHOLOGY

- CO 1 The student will be able to describe the overview of forensic psychology and legal aspects of forensic psychology
- CO 2 The student will be able to rationalize the significance of criminal profiling and importance of psychological assessment in gauging criminal behavior.
- CO 3 The student will acquire the skills involving the tools and techniques required for detection of deception and the critical assessment of advanced forensic techniques

ENGLISH COMMUNICATION

- CO 1 The student will acquire the skills of listening, speaking, reading, writing and thinking in an integrated manner.

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- CO 2 The student will develop interpersonal communication skills.
- CO 3 The student will attain basic proficiency like, developing ability to express one's own thoughts orally and in writing in a meaningful way in English language.

CHEMISTRY

- CO 1 The student will attain basic understanding of concepts relating to organic chemistry
- CO 2 The student will be able to define solutions and solvents
- CO 3 The student will be able to describe the concepts relating to inorganic chemistry

SEMESTER III

FORENSIC DERMATOGLYPHICS

- CO 1 The student will be able to explain the concepts involving the fundamental principles on which the science of fingerprinting is based, including methods of classification.
- CO 2 The student will acquire the skills relating to the physical and chemical techniques of developing fingerprints on crime scene evidence.
- CO 3 The student will be able to justify the significance of foot, palm, ear and lip prints.

TECHNOLOGICAL METHODS IN FORENSIC SCIENCE

- CO 1 The student will attain understanding of the importance of chromatographic and spectroscopic techniques in processing crime scene evidence, The utility of colorimetry, electrophoresis and neutron activation analysis in identifying chemical and biological materials.
- CO 2 The student will understand the significance of microscopy in visualizing trace evidence and comparing it with control samples.
- CO 3 The student will be able to explain the concepts involving the usefulness of photography and videography for recording the crime scenes.

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CRIMINALISTICS

- CO 1 The student will be able to explain the concepts involving the methods of securing, searching and documenting crime scenes.
- CO 2 The student will be able to demonstrate the art of collecting, packaging and preserving different types of physical and trace evidence at crime scenes, The legal importance of chain of custody.
- CO 3 The student will attain skills in using various tools and techniques for analysis of different types of crime scene evidence.

INTRODUCTION TO BIOMETRY

- CO 1 The student will be able to describe the basics of biometry.
- CO 2 The student will be able to illustrate the classification of biometric processes.
- CO 3 The student will be able to rationalise the importance of physiological and behavioral biometry.

COMPUTER SCIENCE

- CO 1 The student will be able to identify various devices and their working principles and define various computer applications.
- CO 2 The student will be able to use the MS office applications.
- CO 3 The student will be able to understand and solve the problems using python environment.

SEMESTER IV

FORENSIC CHEMISTRY

- CO 1 The student will be able to demonstrate the methods of analyzing trace amounts of petroleum products in crime scene evidence, and analyzing contaminants in petroleum products

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- CO 2 The student will be able to understand the method of searching, collecting, preserving and analyzing arson evidence.
- CO 3 The student will be able to explain the significance of bomb scene management and important techniques of locating hidden explosives

QUESTIONED DOCUMENT

- CO 1 The student will be able to analyze the importance of examining questioned documents and tools required for examination in crime cases
- CO 2 The student will be able to understand the significance of comparing hand writing samples.
- CO 3 The student will be able to describe the importance of detecting frauds and forgeries by analyzing questioned documents.

FORENSIC BIOLOGY

- CO 1 The student will be able to rationalise the significance of biological and serological evidence
- CO 2 The student will be able to justify the importance of biological fluids – blood, urine, semen, saliva, sweat and milk – in crime investigations
- CO 3 The student will be able to explain how forensic entomology assists in death investigations

HANDWRITING IDENTIFICATION AND RECOGNITION

- CO 1 The student will be able to interpret important features in handwriting identification
- CO 2 The student will be able to explain the basis of handwriting characteristics
- CO 3 The student will understand the significance of forensic documentation

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PSYCHOLOGY

- CO 1 The student will be able to define and explain the basic concept of psychology
- CO 2 The student will be able to elucidate on the scope, goals and branches of psychology
- CO 3 The student will be able to interpret human personality and its assessment

SEMESTER V

FORENSIC BALLISTICS

- CO 1 The student will be able to illustrate the classification of firearms and their firing mechanisms, and the methods of identifying firearms.
- CO 2 The student will be able to explain the importance and characteristics of firearm evidence and ammunition
- CO 3 The student will be able to describe the nature of firearm injuries and the methods for characterization of gunshot residue.

FORENSIC TOXICOLOGY

- CO 1 The student will be able to explain the significance of toxicological studies in forensic science, the classification of poisons and their modes of actions and the absorption of poisons in body fluids.
- CO 2 The student will attain skills in the forensic identification of illicit liquors,
- CO 3 The student will be able to explain the classification and characteristics of the narcotics, drugs and psychotropic substances, analyse the menace of designer drugs and demonstrate the methods of identifying and purifying narcotics, drugs and psychotropic substances.

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DIGITAL FORENSICS

- CO 1 The student will be able to explain the basics of digital forensics.
- CO 2 The student will be able to elucidate on the cases which fall under the purview of digital crimes and the types of digital crimes.
- CO 3 The student will be able to describe the elements involved in investigation of digital crimes.

FORENSIC SEROLOGY

- CO 1 The student will be able to explain the significance of serological evidence.
- CO 2 The student will attain understanding of the importance of biological fluids – blood, urine, semen, saliva, sweat and milk – in crime investigations.
- CO 3 The student will be able to demonstrate the usefulness of genetic markers in forensic investigations and the forensic importance of bloodstain patterns

SEMESTER VI

FORENSIC ANTHROPOLOGY AND ODONTOLOGY

- CO 1 The student will be able to elucidate the importance of forensic anthropology in identification of persons and illustrate the different techniques of facial reconstruction and their forensic importance
- CO 2 The student will be able to justify the importance of forensic odontology
- CO 3 The student will be able to describe the significance of somatoscopy and somatometry

FORENSIC MEDICINE AND MICROBIAL FORENSICS

- CO 1 The student will be able to explain and understand steps involved in processing the death scene and the importance of ascertaining whether the crime was staged to appear as suicide or accident
importance of ascertaining whether the crime was staged to appear as suicide or accident

- CO 2 The student will be able to rationalise the importance of autopsy
- CO 3 The student will be able to justify the importance of microbial forensics and bio-terrorism

DNA FORENSICS

- CO 1 The student will be able to explain the basic principle of DNA analysis and forensic significance of DNA typing
- CO 2 The student will be able to describe the importance of short tandem repeats and restriction fragment length polymorphism in DNA technique
- CO 3 The student will be able to elucidate the role of DNA typing in parentage testing

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