



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Shri Vaishnav Institute of Forensic Science

Choice Based Credit System (CBCS)

B. Sc. with Major Forensics Science - Batch (2023-27)

SEMESTER- I

BFS101 INTRODUCTION TO FORENSIC SCIENCE AND CRIMINAL LAW

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BFS101	Major	Introduction to Forensic Science and Criminal Law	60	20	20	60	40	4	0	4	6

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

COURSE OBJECTIVES:

After studying this paper the students will know–

1. The significance of forensic science to human society.
2. The fundamental principles and functions of forensic science.
3. The divisions in a forensic science laboratory.
4. The working of the forensic establishments in India and abroad.
5. About the provisions of Criminal Laws.

COURSE OUTCOMES:

After studying this paper the student will be able to-

1. The student will be able to understand the principles of forensic science.
2. They will be able to develop the knowledge of various domains of forensic science.
3. They will be familiar to the organizational setup of forensic science laboratories in India.
4. They will be able to understand the importance of the various government organizations working in the field of forensic science.
5. The student will be able to understand know about the provisions of Criminal Laws.

Unit1: Introduction to Forensic Science

Definitions and concepts of Forensics Science, Historical development of Forensic Science in India, Basic principles of forensic science. Branches of forensic science. Development of Forensic science laboratories in India. Organisational Structure of Central and State Forensic Science laboratories. Role of mobile Forensic Science laboratories.

Unit 2: Crime Scene Management

Crime scene: Definition and types, Physical evidences-definition and types, Different search methods for locating physical evidences at scene of crime, Chain of custody. Handling of physical evidence, preservation, packing, Labelling, transportation & forwarding of physical evidences of difference nature

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SEMESTER- I

Unit 3: Detective Agencies and Training Institutes of Forensic Science

Fingerprint Bureaus, National Crime Record Bureaus (NCRB) , Police & Detective Training Schools (CDTS), Bureau of Police Research & Development, (BPR&D), Directorate of Forensic Science(DFS), CBI, Police Academies, Role of Police dogs. NTERPOL and FBI.

Unit 4: Introduction to Criminal Law

General Introduction of Criminal Law and Indian Penal Code. Definition and Characteristics of crime. Classification of crime under IPC. General Introduction of Culpable Homicide and Murder (299 & 300 IPC) 304A, (Death Cause by negligence), 304B (Dowry death cases), Simple Hurt (319) and Grievous Hurt (320). Attempt to suicide (309 IPC), Rape (375,376 IPC).

Unit-5: Criminal Procedure Code and Indian Evidence Act

Bailable and Non Bailable Offences. Cognizable and Non Cognizable Offences, Warrant and its execution (70, 71, 72, 73, 74), FIR, Report of Government Scientific experts section (291, 292, 293(CrPC)). General Introduction of Summons and its execution. Expert witness & its testimony (45, 46, 47).

SUGGESTED READINGS

1. B.B.Nanda and R.K.Tiwari, Forensic Science in India: A Vision for the Twenty First Century, Select Publishers, New Delhi (2001).
2. M.K.Bhasin and S.Nath, Role of Forensic Science in the New Millennium, University of Delhi, Delhi (2002).
3. S.H. James and J.J. Nordby, Forensic Science: An Introduction to Scientific and Investigative Techniques, 2nd Edition, CRC Press, Boca Raton (2005).
4. W.G.Eckert and R.K.Wright in Introduction to Forensic Sciences, 2nd Edition, W.G.Eckert (ED.), CRC Press, Boca Raton (1997).
5. R. Saferstein, Criminalistics, 8th Edition, Prentice Hall, New Jersey (2004).
6. W.J. Tilstone, M.L. Hasturpan and C. Hald, Fisher's Techniques of Crime Scene
7. Investigation, CRC Press, Boca Raton (2013)
8. .Ratan Lal & Dheeraj Lal, Indian Penal Code, Lexis Nexis Publication, Mumbai.
9. Batuk Lal, The Code of Criminal Procedure, Central Law Agency.
10. M. Monir, Law of Evidence, Universal Law Publishing Co. Pvt. Ltd, N. Delhi.
11. D.A. Bronstein, Law for the Expert Witness, CRC Press, Boca Raton.
12. Durga Das Basu, Introduction to the Constitution of India, Lexis Nexis Publication, Mumbai.
13. Mumbai.
14. K D.Gaur Indian Penal code, Universal Publication, 2018.
15. S.N. Mishra the Criminal procedure code Central Law Publication Allahabad..

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PRACTICALS

1. To write a case study of a crime case involving forensic investigation.
2. To review the annual reports of National Crime Records Bureau.
3. To review the working of State and Central Fingerprint Bureau,
4. To review the organisational set up of FSL's at central and state level.
5. To review the role of Bureau of Police Research and development.
6. To Study the significance of CDTS & Police academies.
7. To review the functioning of criminal courts.

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SEMESTER- I

BFS102 BIOLOGY

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment	END SEM University Exam	Teachers Assessment				
BFS102	Minor	Biology	60	20	20	60	40	4	0	4	6

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Course Objectives: The course aims to provide the students with-

1. The overview of cell biology
2. The concepts of human anatomy and physiology
3. The concepts of plant anatomy and physiology

Course Outcomes: After studying this course, the students will-

1. Be able to understand the cell theory.
2. Be able to distinguish the prokaryotic cell and eukaryotic cell, animal cell and plant cell.
3. Be familiar to various physiological systems of human
4. Be able to know the anatomical and physiological features of plant.

UNIT I: Biology of Cell

History of Cellular Biology, Modern Cell Theory. Types of Cells: Prokaryotic and Eukaryotic Cells, Animal and plant cell. Chemical composition of cells. Ultra structure of cell. Cell cycle (Mitosis and Meiosis)

UNIT II : Human Anatomy and Physiology I

Anatomy and Physiology of Musculoskeletal system, Nervous system, Circulatory system and Respiratory system

UNIT III: Human Anatomy and Physiology II

Anatomy and Physiology of Digestive system, Reproductive system, Endocrine system and Excretory System.

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SEMESTER- I

UNIT IV: Plant Anatomy

Structure and functions of: Roots, Stems, Leaves. Plant tissues: Meristematic, Dermal, Ground and Vascular Tissue (Xylem & Phloem). Flower, Fruits.

UNIT V: Plant Physiology:

Transport in plants, Photosynthesis, Respiration, Plant growth and development: Phase of growth, and Plant Growth regulator. Photoperiodism and flowering.

List of Practicals:

1. Study of construction and working of compound microscope.
2. Monochrome staining of prokaryotic cell (Bacterial cells).
3. Monochrome staining of eukaryotic cell (Yeast)
4. Gram staining of bacterial cells.
5. Detection of mitochondria by differential centrifugation.
6. Study of different stages of mitosis.
7. Study of different stages of meiosis.
8. Qualitative test for detection of DNA by diphenylamine method.
9. Qualitative test for detection of RNA by Orcinol method.
10. Staining of epithelial cells from oral cavity.
11. Study of permanent slides of muscular, bone tissues.
12. Osmosis – by potato osmoscope experiment.
13. Structure of endosperm (nuclear and cellular); Developmental stages of dicot and monocotembryos using permanent slides / Photographs.
14. Study of ovule types and developmental stages of embryo sac using permanent slides /Photographs.
15. Separation of plant pigments (chlorophyll) by chromatography.

Suggested Readings:

1. Gerald Karp, Cell Biology, Sixth Edition International , Wiley Publications,
2. Sherwood Lauralee Human Physiology : From Cells to Systems,
3. Lodish, H., Berk, A., Zipursky, S. L., Matsudaira, P., Baltimore, D. and James Darnell,
4. Karp, G. Cell and Molecular Biology: Concepts and Experiments. Wiley,
5. Morgan, David O. The Cell Cycle.
6. Hancock, J.T., Cell Signalling.
7. Gray H., Gray's anatomy.
8. Chaurasia B.D., Human Anatomy.
9. Chatterjee C.C., Human Physiology, Medical Allied Agency.
10. Drake R.L., Vogl A.W., Gray's Anatomy, Elsevier
11. Klein Jonathon, Plant Anatomy and Physiology

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