Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Semester-I (B.Sc.)
Name of Program B.Sc./B.Sc. – M.Sc. (Forensic Science)

Course Code	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 *				
BSFS101	Introduction to Forensic Science	60	20	20	30	20	3	1	2	5

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**

Learning 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.

Unit1: History of Forensic Science
Definitions, concepts and Scope of forensic science, Branches of forensic science, Functions of forensic science, Historical aspects of forensic science and its development in India, Need of forensic science, Basic principles of forensic science, Frye case and Daubert standard.

Unit 2: Scene of Crime
Definition of Scene of Crime (SOC), Types of scene of crime-Indoor, outdoor and Mobile. Protection of SOC, preservation of SOC- Videography, Photography, Photogrammetry , Note making and Sketching, Different methods of sketching of SOC.

Unit 3: Physical evidences
Physical evidences-definition and types, Class & individual characteristics of physical evidences, Different search methods for locating physical evidences at scene of crime. Handling of physical evidences- preservation, packing, Labelling, transportation & forwarding of the various evidences. chain of custody.

Unit 4: Organizational setup of Forensic Science Laboratories in India
Hierarchical setup of Central Forensic Science Laboratories, State Forensic Science Laboratories, Government Examiners of Questioned Documents ,Fingerprint Bureaus, National Crime Records Bureau , Bureau of Police Research& Development, Directorate of Forensic Science and Mobile Crime Laboratories,

Unit 5: Development of Forensic Science
Police & Detective Training Schools, Police Academies, Police dogs, Services of crime laboratories. Forensic science in international perspectives including setup of INTERPOL and FBI, Duties of forensic scientists, Code of conduct for forensic scientists, Qualifications of forensic scientists, Data depiction, Report writing.

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LIST OF PRACTICALS

1. To review the sections of forensic science at INTERPOL and compare with those in Central Forensic Science Laboratories in India. Include suggestions for improvements if any.
2. To study the annual reports of National Crime Records Bureau and depict the data on different type of crime cases by way of smart art/templates.
3. To write report on different type of crime cases.
4. To examine the hierarchical setup of different forensic science establishments and suggest improvements.
5. To examine the list of projects undertaken by the Bureau of Police Research and Development and suggest the thrust areas of research in Police Science.
6. To compare the code of conduct prescribed by different establishments for forensic scientists.

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. Hastrup and C. Hald, *Fisher's Techniques of Crime Scene*
7. *Investigation*, CRC Press, Boca Raton (2013).

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Semester-I (B.Sc.)

Name of Program B.Sc./B.Sc. – M.Sc. (Forensic Science)

COURSE CODE	COURSE NAME	TEACHING & EVALUATION SCHEME								
		THEORY			PRACTICAL		Th	T	P	CREDITS
		END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BSFS102	Crime Society and Police Science	60	20	20	00	00	4	1	0	5

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Learning Objectives: After studying this paper the students will know–

1. The importance of Criminology.
2. Crime and Society-Social change and crime
3. The causes of criminal behaviour.
4. The types of Crime.
5. The theories and objects of Punishment.
6. Juvenile Delinquency and its causes.
7. Organizational structure of Police at State and Central level

Unit I Criminology

Criminology-Definition and scope. Inter relation between Criminology, Penology and criminal law. Importance of criminology. Definition of Crime and criminal. Classification of offences under IPC, Characteristics of crime- External consequences, An act (Actus Reus), Mens-rea or guilty mind. Prohibited Act and Punishment. Causes of crime.

Unit II Schools of Criminology

The schools of criminology- Basic concept of Pre classical, Classical, Neo classical, and Positive schools of Criminology. Sociological theories of crime behaviour, Theory of Differential Association, Modern Labelling Theory of crime.

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Unit III Society and Crimes

Introduction to White collar crimes, organised crimes and their types, Economic crimes, Sexual offences, Cyber-crimes, Dowry and Dowry deaths. Drug addicts and Crime.

Unit IV Penology

Punishment - Definition & Objects, Kinds of Punishment, Theories of Punishment. Capital Punishment. Juvenile Delinquency, -Definition & Causes. Special Juvenile Police and its function. Borstal system in India , Recidivism and its causes. Types of Prison and their functions.

Unit V Police science

Definition and scope, Organizational structure of Police at State and Central level, State armed forces(SAF), GRP and Home guards, State Criminal Investigation Department(CID). Investigative agencies at Central level. INTERPOL and its function.

Suggested Readings

1. N.V. Paranjape, Criminology, Penology and Victimology, Central Law Publication, 2017.
2. S.S Srivastava, Criminology, Penology & Victimology, Central Law Agency. Allahabad.
3. Sutherland, E H and Cressay D R, Principles of Criminology, The Times of India Press, Mumbai
4. Ram Ahuja, Criminology, Rawat Publications Jaipur, 2006
5. Sen, P. K. Penology Old and New, 1943.
6. David Scott , Penology, SAGE Publication ,2008

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BSFS103	**Chemistry**	60	20	20	30	20	3	1	2	5

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Learning Objectives: After studying this paper the students will know–

1. The classification of elements into s, p, d, f blocks and learn their main characteristics.
2. The nomenclature methods of formation and uses of organic compounds.
3. Oxidation, Reduction and Mole Concept.

UNIT 1:

I. Introduction to Periodic Table

Study of Modern Periodic Table, Electronic configurations and types of elements: s, p, d, f blocks, Periodic properties –Atomic radius, ionization potential, electron affinity, electro negativity, metallic characters, Non-metallic characters and magnetic properties, Comparative study of S and P block elements.

II. Acids, Bases and Solvents

Definition of acids and bases, Arrhenius theory of acid and bases, Lowry –Bronsted theory of acid and bases, Lewis concept of acid and bases, Ionization of acids and bases, the pH scale, Buffer solutions, Properties of solvents - M.P-B.P range, dipole moment, dielectric constant, Lewis acid-base character and types of solvent.

UNIT 2: Mole Concept and Oxidation – Reduction

Mole Concept – Equivalent weight, determination of molecular weight by gram molecular volume relationship, Problems based on mole concept, Methods of expressing concentrations – strength, normality, molarities, molality, present w/v, present v/v, ppm.

Standardization of solutions – primary and secondary standard substances, preparation of standard solution of acids and bases, Problems related to acid base titrations.

Oxidation and reduction – Definitions related to terms like oxidation, reduction, oxidizing agent, reducing agent, oxidization number, balancing of redox reactions using oxidation number method and ion electron method, Problems based on equivalent weight of oxidant and reductants.

UNIT 3:

Alcohols: Classifications, Nomenclature and Isomerism, methods of preparation, Industrial preparations of alcohols, structure of alcohol, physical and chemical properties, identification of primary, secondary and tertiary alcohols, mechanism of dehydration, Manufacture properties and uses of some important compounds Methanol, Ethanol, Absolute alcohol.

Phenols: Nomenclature, structure and methods of formation, physical and chemical properties, acidic character, comparative acidic strength of alcohols and phenols, stabilization of peroxide ion by

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resonance, electrophillic substitution reactions, uses of phenols. Gatterman synthesis, Hauben-Hoesch reaction, Lederer-Manasse reaction, and Riemer-Tiemann reaction, Coupling reaction, Kolbe reaction, Licbermann's Test of pfenol.

Ethers: Classification, Nomenclature and Isomerism, methods of preparation, physical and chemical properties and uses.

UNIT 4:

Haloalkanes: Classification, Nomenclature, and Isomerism, structure, nature of C-X bond, methods of formation, physical and chemical properties, mechanism of substitution reactions, optical rotation.

Haloarenes: Nature of C-X bond, method of formation, physical and chemical properties and reactions of aryl halides, mechanism of nucleophilic aromatic substitution reactions, methods of preparation, Physical and chemical properties, uses and environmental effects of - dichloromethane, trichloromethane, tetrachloromethane, iodoform freons, DDT & BHC.

UNIT 5:

Polymers: Introduction, types &classification of polymerization, methods of polymerization addition, condensation, copolymerization, Reaction mechanism,

Fibres: Cellulose and synthetic Nylon, Decoran, Polyvinyl, Polyacrylates.

Rubber: Natural Rubber, isolation from latex, Vulcanisation & its mechanism cis-trans rubbers, Styrene rubber(GR-S) and nitrile rubber (GR-A), Neoprene, butyle rubber, thiocols, Polyurethanes.

Plastic: Classification, Thermoplastic & Thermo setting plastics, Polythene, PVC, PVA, Polyacrylonitrils, Phenol formaldehydes resin ,urea Formaldehyde resin and silicon resin.

Practical

1. To determine relative viscosity of given organic liquids by viscometer (Four liquids)
2. To determine the molecular weight of a high polymer by using solutions of different concentrations
3. To determine Pk value of given weak acid by pH-metric titration with strong base.
4. pH metric measurement
   (a) To prepare buffers and standardization of pH meter
   (b) Determine the molarity of Hcl pH-metrically provided M/10 NaOH
5. Tests for the functional groups present in organic compounds.
6. Preparation of Inorganic Compounds.
7. Preparation of Organic Compounds.
8. Test for un-saturation and functional groups present in organic compounds.
9. Determination of concentration/molarity of $KMnO_4$ solution by titrating it against a standard solution.
10. Qualitative Analysis – Determination of Cations and Anions in a given salt.

Cations-Pb^{2+}, Cu^{2+}, As^{3+}, Al^{3+}, Fe^{3+}, Zn^{2+}, Mn^{2+}, Ni^{2+}, Co^{2+}, Ba^{2+}, Sr^{2+}, Ca^{2+}, Mg^{2+}, NH_4^+

Anions – CO_3^{2-}, S^{2-}, SO_3^{2-}, SO_4^{2-}, NO_2^-, NO_3^-, Cl^-, Br^-, I^-, CH_3COO^-, PO_4^{3-}, $C_2O_4^{2-}$

Suggested Readings

1. Advanced Inorganic Chemistry, Volume-I, Nineteenth Edition, SatyaPrakash, G. D. Tuli, S. K. Basu, R. D. Madan, S. Chand Publication, ISBN- 81-219-0263-0.
2. Concise Inorganic Chemistry, Fifth Edition, of Inorganic Chemistry, Third Edition, Douglas Mc. Doniels, Wiley India.J. D. Lee, Wiley India
3. General Chemistry, Sixth Edition, Raymand Chang, McGraw Hill
4. Morrison, R. N. & Boyd, R. N. Organic Chemistry, Dorling Kindersley (India) Pvt. Ltd. (Pearson Education).
5. Finar, I. L. Organic Chemistry (Volume 1), Dorling Kindersley (India) Pvt. Ltd. (Pearson Education).

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Name of Program B.Sc./B.Sc. – M.Sc. (Forensic Science)

Course Code	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*				
BSFS104	**Psychology**	60	20	20	30	20	3	1	2	5

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
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Learning Objectives: After studying this paper the students will know–

1. The basic concept of Psychology
2. Biological perspective of Psychology
3. To assess problems in attention and perception
4. States of consciousness sleep and drinks.

UNIT: 1 – The Science of Psychology

Concepts of psychology - Definition of psychology, goals of psychology, History of psychology - Development of psychology, role of psychologist, Different perspectives in Psychology - Modern perspectives, Humanistic, behaviouristic, cognitive, psychodynamic, Types of psychology

UNIT 2 - Professions in Psychology

Professions - Psychiatrist, Psychologist, Counsellor, The science and research methods - Interview, observation, case study method, Professional and Ethical issues in psychology - APA code of conducts for Psychologist.

UNIT 3 – Biological Perspective

Nerve and neuron - Building the network, structure of neuron, neural impulses, neurotransmitters, Nervous System -Central nervous system, structure and function of CNS, types ofamnesia, Peripheral nervous system, Human brain - structure and function, significance of left and right brain, types of Amnesia, Endocrine system- Pituitary gland, Thyroid gland, Neurotransmitters

UNIT 4 – Consciousness & Perception

Consciousness - Definition of consciousness, states of consciousness, Altered state of consciousness - Dreams, awake states including day dreaming, Rhythms of consciousness (Circadian rhythms) Sleep – stages of sleep, Dreams –Content, REM sleep and non-REM sleep, Altered states – Hypnosis, Meaning, Hypnotic Phenomena, Hypnotic stages,

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UNIT 5- Attention and Awareness

Attention and awareness - Attention: Definition, characteristics, selective attention and divided attention, Sensation and perception- Basic concepts in perception, Gestalt Principles, problems in attention and perception, assessment attention and perception

List of Practicals

Part A: Basics of Forensic Psychology
Introduction of Psychology Practicals.
Objective Personality Test : Locus of Control Test.
Projective Personality Test : House, tree, person test
Conduction of Personality Test.

- D.A.P.
- H.T.P.

Suggested readings

1. General Psychology by Cicarelli
2. General Psychology by Vipan Kumar
3. Cognitive Psychology by Galloti
4. Mannuals of Respective Test
5. Psychological testing by Anastasi
6. Abnormal Psychology by Barlow and Durand.
7. Psychology and Work, by Schultz D (2006),8thedi.
8. Experimental Psychology, Solso .R.L.(2008)
9. Social Psychology, Barron and Barron.
10. Behavior Modification, Martin Garry,(2002),7th edi.
11. Introduction to Psychology, Morgan, King, Weiss and Schopler, VII edition, (1989) McGraw Hill, India.
12. Abnormal psychology & modern life, Carson RC & Butcher JN (10th Ed) Harper-Collins NY
13. The Counseling process Patterson, Lewis E. ;& Welfel, Elizabeth Reynold [2000] Hilgard,
14. Introduction to Psychology, Atkinson and Atkinson, (1975) Oxford IBH Publishing Co. Pvt. Ltd.

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B.A. Honors Economics

SUBJECT CODE	CATEGORY	SUBJECT NAME	TEACHING &EVALUATION SCHEME								
			THEORY			PRACTICAL		Th	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
HU101	SOC. SC., ARTS& HUM	Foundation English I	60	20	20	0	20	3	0	2	4

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;
***Teacher's Assessment** shall be based upon following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

.Course Educational Objectives (CEOs): The students will be able to

- Develop the second language learners' ability to enhance and demonstrate LSRW Skills.
- To acquire English Language Skills to further their studies at advanced levels.
- To become more confident and active participants in all aspects of their undergraduate programs

Course Outcomes (COs): The students should be able to:

- Have confidence in their ability to read, comprehend, organize, and retain written information.
- Write grammatically correct sentences for various forms of w itten communication to express themselves.

COURSE CONTENTS

UNIT I

Communication: Nature, Meaning, Definition, Process, Functions and importance, Characteristics of Business Communication ,Verbal and Non Verbal Communication ,Barriers to Communication.

UNIT II

Listening: Process, Types, Difference between Hearing and Listening, Benefits of Effective Listening , Barriers to Effective Listening, Overcoming Listening Barriers, and How to Become an Effective Listener

UNIT III

Basic Language Skills: Grammar and usage- Parts of Speech, Tenses, Subject and Verb Agreement, Prepositions, Articles, Types of Sentences, Direct - Indirect, Active - Passive voice, Phrases & Clauses.

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UNIT IV

Business Correspondence : Business Letters, Parts & Layouts of Business Letter, Job application and Resume, Application Calling/ Sending Quotations/ Orders/ Complaints. E-mail writing , Email etiquettes

UNIT V

Précis Writing and Noting: The Purpose of Notes, Methods of Note-Taking, General Principles of Good Notes. Drafting: Notices, Agenda and Minutes. Advertisement: Importance, Types, Various Media of Advertising. Slogan Writing.

Practical:

- Self Introduction
- Reading Skills and Listening Skills
- Linguistics and Phonetics
- Role plays
- Oral Presentation – Preparation & Delivery using audio – visual aids with stress on body language and voice modulations.
- Social etiquettes

Suggested Readings

- Adair, John (2003). *Effective Communication*. London: Pan Macmillan Ltd.
- A.J. Thomson and A.V. Martinet(1991).*A Practical English Grammar*(4th ed). Newyork: Oxford IBH Pub
- Ashraf Rizvi.(2005).*Effective Technical Communication*. New Delhi:Tata Mc Graw Hill
- Kratz, Abby Robinson (1995). *Effective Listening Skills*. Toronto: ON: Irwin Professional Publishing.

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