

**অসম লোকসেৱা আয়োগ****ASSAM PUBLIC SERVICE COMMISSION**

Jawaharnagar, Khanapara, Guwahati-781022.

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- (2) Name of Post: Scientific Officer for Regional Forensic Science Laboratories at Silchar, Bongaigaon, Tezpur and Dibrugarh respectively under the Directorate of Forensic Science, Assam.

SYLLABUS

(Master Degree Standard)

SUBJECT: QUESTIONED DOCUMENTS AND GENERAL STUDIES

(Multiple Choice Objective Type)

Full Marks: 200 Marks**Time: 2 Hrs****PART-A****1. Crime Scene Management**

Introduction to the crime scene, Types of crime scene, Evaluation and processing of crime scene, securing the scene of crime, Documenting the crime scene (Note making, Sketching, Photography, videography of crime scene), role of the first arriving officer at the crime scene Digital Imaging of Crime Scene, 3-D scanning technique. Searching techniques of Crime scene, Processing of physical evidencediscovering, recognizing and examination of physical evidence, Collection, Safety measures for evidence collection. Preservation, Packaging, sealing, labelling and forwarding of physical evidence, Maintaining the chain of custody, Probative value of physical evidence, Reconstruction of scene of crime. Introduction to physical evidence, Types of physical evidence, Classification and Role of physical evidence in Criminal Investigations & Trails.

2. Basics of Questioned Documents

Introduction to document examination: Definition, scope, nature and problems, Types of documents-genuine, contested, questioned and forged documents, Care and Handling of Document Exhibits, Forgeries & its types, detection of forgeries in handwriting, signatures and related case studies, Basics of handwriting identification, individuality of handwriting, natural variations, determination of authorship of writer, collection of exemplars, basic tools needed for forensic documents examination and their significance.

Disguised writing and anonymous letters, Examination of alterations in documents, Decipherment of secret writing, Indented writings and charred writings. Examination of

seal and other mechanical impressions, Built up documents, determination of sequence of strokes, physical matching of documents.

3. Fundamentals of Document Analysis

Examination of Photostat (Xerox) copies, carbon copies, fax message, type writings, printed matter: letterpress printing, intaglio printing, offset printing, screen printing & its related concepts, printing of security documents, examination of security features: Indian currency notes, passports/visa, credit/debit cards etc, Related Case Studies.

Estimating the age of document and writings, types of computer printers and their working, Examination of Computer printouts, Forensic linguistics and stylistics, its importance in writer identification Examination of e-documents and digital signatures, Opinion- Reporting to the court juxtaposed charts - evidence in the court- cross examination, Related Case Studies

Classification of Erasures:- Chemical & Physical erasures and techniques involved for their detection and decipherment, working principle & features and applications of Spectral Comparators, principle and working of Electrostatic Detection apparatus and its applications. Ink examination, chemical composition of different types of inks, destructive and non-destructive techniques involved in differentiation of ink. Writing instruments, working of fountain pen, ball pen, gel pen, writing inks, Printing inks and printing toners. Viscosity, Surface tension, Capillary rise.

4. Methods of Document Examination

Paper examination: - Physical comparison parameters, chemical composition, sizing & loading materials, tensile strength, comparison techniques: destructive & non-destructive. Serrated edges examination. Physical evidences: Examination of printed labels, wrappers, rubber seal impressions, Facsimile document/ signature examination. Photocopy and scanned documents: process of scanning, identifying features. Charred documents: preservation and examination techniques involved.

Printed document examination: Printing technology, examination of type-script, classification of printers: identification of printed matter, different printing technologies, Examination of computer printouts, Concept of digital signature. Examination of security documents: Currency notes, Passport, Visa, Various identity cards, Stamp papers, travel documents. OVI ink, thermal ink, Examination of credit, debit and other plastic cards.



5. Basics of Instrumentation

Electromagnetic radiations and their properties General properties of electromagnetic radiations: Wave and Quantum mechanics Interaction of EMR with matter Photoelectric effect, De Broglie-Bohr Theory and derivation of equation, Heisenberg uncertainty principle, Plank's Quantum theory Davisson and Germer Experiment, Electronic spectra and molecular structure.

Spectroscopic Techniques: Absorption, Emission and Transmission Spectroscopy, Ultraviolet and visible spectroscopy: Instrumentation and Applications. Infrared Spectroscopy: Molecular vibration, Theory of IR absorption, IR Basics of Mass Spectroscopy Introduction to Chromatography: Theory of separation techniques, Types of chromatography and their Forensic Applications, Thin layer chromatography, High Performance Liquid Chromatography, Gas Chromatography.

PART – B

- 1. General Knowledge.**
- 2. General English.**
- 3. General Science.**


Controller of Examinations,
Assam: Public Service Commission
Khanapara, Guwahati-22
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