

FIRST SEMESTER P.G. DEGREE EXAMINATION, NOVEMBER 2020**(CCSS)****Forensic Science****FSC 1C 02—CRIME AND CRIMINAL JUSTICE SYSTEM****(2019 Admissions)****Time : Three Hours****Maximum : 80 Marks****I. Write an essay on any *two* of the following :**

- 1 What are 'White Collar Crimes' ? Give their types and impact on society.
- 2 Discuss the concept of "Born Criminal". Add a critical note on its validity.
- 3 Discuss the problems of victims of crime. Give the compensation schemes to victims of crime in India.
- 4 Describe the organization and the Powers of Criminal Law Courts of a District in India.

(2 × 15 = 30 marks)**II. Write short essay on any *three* of the following :**

- 5 Discuss the types and the causes of Child Abuse.
- 6 Write a note on the role of family in the propagation of criminality.
- 7 Describe the concept and the administration of Probation in India.
- 8 What are custodial deaths ? Discuss the ways and means of their prevention.
- 9 State your arguments for and against the retention of capital punishments.

(3 × 10 = 30 marks)**III. Write short notes on any *five* of the following :**

- 10 Give the various causes for Children (Juvenile) in conflict with Law.
- 11 What is the role of Psychological factors in cause of crime ?
- 12 What is the concept of "Labelling Theory" ?
- 13 What is the Juvenile Justice Board ?

- 13 What are anti-social personality disorders ?
- 14 Evaluate investigative interviewing in a serial offence.
- 15 Give the principle of Narcoanalysis.
- 16 Write a note on “Competency to stand Trial”.
- 17 What is the concept of rehabilitation and correction of offenders ?

(5 × 4 = 20 marks)

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FIRST SEMESTER P.G. DEGREE EXAMINATION, NOVEMBER 2020**(CCSS)****Forensic Science****FSC 1C 01—FUNDAMENTALS OF FORENSIC SCIENCE AND CRIMINAL LAWS****(2019 Admissions)****Time : Three Hours****Maximum : 80 Marks****I. Write an essay on any *two* of the following :**

- 1 Describe the various branches of a Forensic Science Laboratory. Add a note on the services offered by each of them.
- 2 Narrate the Frye case and the evolution of the Daubert Standards. Add a note on their applicability in rules governing the admission of evidence.
- 3 Examine the contents of Section. 174 and 176 of the Code of Criminal Procedure. Point out the significant differences between them and add suitable cases to them.
- 4 Discuss the salient features of The Protection of Children from Sexual Offences Act-2012 (POCSO Act).

(2 × 15 = 30 marks)**II. Write short essay on any *three* of the following :**

- 5 Elucidate the establishment of Central Forensic Science Laboratories in India. Add a note on their services offered.
- 6 What is Evidence? Explicate their types with the aid of suitable examples.
- 7 What are 'Confessions'? Give the circumstances of their being invalid and valid.
- 8 Describe the methods of collection of hair samples from a victim of an alleged sexual offence.
- 9 Narrate the salient features of the NDPS Act-1985.

(3 × 10 = 30 marks)**III. Write short notes on any *five* of the following :**

- 10 Describe the INTERPOL'S Forensic Science Establishment.
- 11 Explain the Principle of Exchange with the aid of appropriate examples.

- 14 Who is a Hostile Witness ?
- 15 What are cognizable offences ?
- 16 What is Alcoholism ? Give any *one* cause.
- 17 List out the types of prisons (Correctional Institutions) for adults in India.

(5 × 4 = 20 marks)

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SECOND SEMESTER P.G. DEGREE EXAMINATION, APRIL 2020

(CCSS)

M.Sc. Forensic Science

FSC 2C 10—BIOLOGICAL EVIDENCE AND INSTRUMENTAL TECHNIQUES-
BIOLOGICAL

(2019 Admissions)

Time : Three Hours

Maximum : 80 Marks

I. Write an essay on any *two* of the following. Each question carries 15 marks :

- 1 Explain in detail about the forensic significance of Human Hair. Differentiate between human and animal hair with the help of neat labelled diagram.
- 2 A blood stained cloth is sent to you from a crime scene. How will you ascertain the blood group by the ABO blood group system ? Add a descriptive note on the ABO System.
- 3 Elucidate the PCR technique and explain in details about various steps in PCR technique.
- 4 Explain the organization of DNA in human genome with special focus on Tandem repeats.

(2 × 15 = 30 marks)

II. Write short essays on any *three* of the following. Each question carries 10 marks :

- 5 Discuss in brief the forensic significance of entomology.
- 6 Bring out the significance of DNA in a sexual assault case investigation ? What procedure you will follow to extract DNA from the vaginal swab for identification of the accused ?
- 7 What is meant by cadaveric spasm ? Explain the inference that can be drawn during death investigation.
- 8 What are 'Micro-Crystalline' Tests ? What structures can be observed in Tiechmann's and Takayama's tests, respectively in the presence of blood ? Explain the tests.
- 9 Explain the components of seminal fluid and mention the presumptive tests for the detection of seminal stain ?

(3 × 10 = 30 marks)

Turn over

- 12 How is a glass tumbler and a porcelain plate, suspected to contain fingerprints, packed and forwarded ?
- 13 Describe the exemption from criminal liability for “Judicial Acts’, as laid down in the General Exceptions of the Indian Penal Code.
- 14 Write the significance of Article 14 of the Constitution of India.
- 15 What are the behaviour of a male, that can amount to ‘Sexual Harassment’ to a female co-worker ?
16. Write a note on ‘Expert’s Evidence’ as provided for in the Indian Evidence Act ?
17. Describe the services provided by the State Fingerprint Bureau.

(5 × 4 = 20 marks)

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SECOND SEMESTER P.G. DEGREE EXAMINATION, APRIL 2020

(CCSS)

M.Sc. Forensic Science

FSC 2C 09—CHEMICAL EVIDENCE AND INSTRUMENTAL TECHNIQUES—CHEMICAL

(2019 Admissions)

Time : Three Hours

Maximum : 80 Marks

I. Write an essays on any *two* of the following :

- 1 In case of an explosion, as investigating officer, how will you proceed with the following :
 - (a) Scene investigation.
 - (b) Post blast residue collection.
 - (c) Spot Test to identify.
- 2 Write a detailed note on classification of drugs of abuse with example and preliminary screening performed in the State Forensic Science Laboratories for the same.
- 3 Elaborate on various Immunoassay techniques used for analysis of toxicological samples.
- 4 Discuss in detail principle, construction and application of GCMS and HPLC.

(2 × 15 = 30 marks)

II. Write short essays on any *three* of the following :

- 5 Write a note on classification of poisons.
- 6 Elaborate on the use of Radio Immuno Assay (RIA). Enzyme-linked Immuno Sorbent Assay (ELISA) in forensic work.
- 7 Explain the chemistry of fire and the forensic importance in the analysis of evidence in arson cases.
- 8 Explain the instrumental analysis used for the detection of ignitable residue present at a fire crime scene.
- 9 Explained the detailed quantitative estimation of ethanol by Kozelka-Hine Method.

(3 × 10 = 30 marks)

Turn over

III. Write short notes on any *five* of the followings. Each question carries 4 marks :

- 10 H antigen is the mother of blood group antigens. Explain.
- 11 What is the forensic significance of pollen ?
- 12 Write a note on cDNA library.
- 13 What is a FTA card ? Explain about its specialities.
- 14 What are monoclonal antibodies ?
- 15 Differentiate between allele and locus.
- 16 Explain the significance of diatoms in forensic science.
- 17 Explain the mechanism behind the foul smell from the corpse.

(5 × 4 = 20 marks)

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SECOND SEMESTER P.G. DEGREE EXAMINATION, APRIL 2020

(CCSS)

M.Sc. Forensic Science

FSC 2C 08—DIGITAL AND CYBER EVIDENCE

(2019 Admissions)

Time : Three Hours

Maximum : 80 Marks

Write an essay on any *two* of the following. Each question carries 15 marks :

1. Define file system and mention its types. Briefly explain the features of a typical file system.
2. List and explain the standard operating procedure for first responders with the help of a flowchart.
3. Expand and explain DDoS attack. What are the types and sub-types of DDoS attack ? Explain.
4. What are the common challenges faced while doing HTTP based E-mail tracing ? Explain.

(2 × 15 = 30 marks)

Write short essays on any *three* of the following. Each question carries 10 marks :

5. Explain the construction of a hard disc drive with a neat labeled diagram.
6. Describe various types of network topologies.
7. Mention and explain any *five* E-mail Protocols.
8. Enumerate any *two* computer facilitated crimes with their mechanism.
9. Write the procedure to acquire and safely store a working smartphone.

(3 × 10 = 30 marks)

Write short notes on any *five* of the following. Each question carries 4 marks :

10. Differentiate between volatile and non-volatile memories.
11. What is an OS ? Mention different types of OS.
12. What is the Forensic significance of hashing digital evidence ?

III. Write short notes on any *five* of the following :

- 10 Write a detailed note on volatile substance abuse.
- 11 Write a note on pour point and smoke point.
- 12 Elaborate on analysis of alcohol sample forwarded to Forensic Science laboratories.
- 13 Explain in detail about the adulteration in petroleum products and its forensic importance.
- 14 Discuss role of a drug recognition expert.
- 15 What is idiosyncrasy. How does it modify the action of poison in human body ?
- 16 Enlist different contents of a toxicological report.
- 17 Write a note on buffers and Centrifugation Techniques.

(5 × 4 = 20 marks)

SECOND SEMESTER P.G. DEGREE EXAMINATION, APRIL 2020

(CCSS)

M.Sc. Forensic Science

FSC 2C 07—PHYSICAL EVIDENCE AND INSTRUMENTAL TECHNIQUES—PHYSICAL

(2019 Admissions)

Time : Three Hours

Maximum : 80 Marks

I. Write an Essays on any *two* of the following:

- 1 Describe Henrys Primary Fingerprint classification by citing a suitable illustration.
- 2 What are Fire Arms ? Describe their classification.
- 3 What are the various types of fibers ? How are they examined in a laboratory to identify the origin ?
- 4 Describe the concepts of Optical Microscopy. Add a note on the types of microscopes used in forensic work.

(2 × 15 = 30 marks)

II. Write a Short Essays on any *three* of the following :

- 5 Describe the procedure of taking the fingerprints of a deceased.
- 6 What is a Questioned Document ? Add a note on care and preservation.
- 7 Explicate the method of identifying the fire arm used in a crime by the cartridge case.
- 8 Give the methods of recording of surface footprints.
- 9 Describe the construction of a Scanning Electron Microscope. List out the samples that are examined under it, in the forensic context.

(3 × 10 = 30 marks)

III. Write Short Notes on any *five* of the following :

- 10 Describe the use of Cyanoacrylate Ester in the development of latent fingerprints.
- 11 Describe the role of document examiner in Trial Court.
- 12 Give the ingredients of propellants used in fire arms ammunition.

13. What is meant by IP address hierarchy ? Mention the classes of IP addresses.
14. "Analysis should always be done on the image file of a storage device". Justify.
15. What are cookies ? Why is it used for ?
16. Write a note on wireless attacks.
17. What is a virtual machine ? Why is it used for ?

(5 × 4 = 20 marks)

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FIRST SEMESTER P.G. DEGREE EXAMINATION, NOVEMBER 2020

(CCSS)

Forensic Science

FSC 1C 04—LABORATORY QUALITY MANAGEMENT, RESEARCH METHODOLOGY
AND STATISTICS

(2019 Admissions)

Time : Three Hours

Maximum : 80 Marks

I. Write an essay on any *two* of the following :

- 1 What is meant by reference standards in a laboratory ? Explain briefly about its characteristics.
- 2 What is LMS ? Describe the strategic design for LMS, with specific reference to a Forensic Science Laboratory.
- 3 Draw a flowchart detailing the research process and explain each component ?
- 4 Calculate the arithmetic mean, median, mode and variance from the following data :

Marks	0-10	10-20	20-30	30-40	40-50	50-60
No. of Students :	12	18	27	20	17	6

(2 × 15 = 30 marks)

II. Write short essay on any *three* of the following :

- 5 Explicate the working standards and secondary standards in a laboratory.
- 6 List out the chemical and biological hazards and add a note on their disposal.
- 7 What are the components of ISO 9000 ?
- 8 Describe the different types of sampling techniques.
- 9 A sample analysis of examination results of 200 MBA's was made. It was found that 46 students had failed, 68 secured a third division, 62 secured a second division and the rest were placed in first division. Are these figures commensurate with the general examination result which is in the ratio of 4 : 3 : 2 : 1 for various categories respectively ?

(3 × 10 = 30 marks)

Turn over

- 13 Explain the method of conducting 'Mechanical Fit'.
- 14 Describe the method of serial number restoration on Cast Iron Block.
- 15 Give the differences between ICP and AAS methods.
- 16 Write in brief about the examination of soil and its importance.
- 17 What are Bite Marks ? Discuss their various types.

(5 × 4 = 20 marks)

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FIRST SEMESTER P.G. DEGREE EXAMINATION, NOVEMBER 2020**(CCSS)****Forensic Science****FSC 1C 03—FORENSIC AND CORRECTIONAL PSYCHOLOGY****(2019 Admissions)****Time : Three Hours****Maximum : 80 Marks****I. Write an essay on any *two* of the following :**

- 1 Describe the concept of Psychological Autopsy. How is it useful in the investigation of an alleged suicide ?
- 2 What is Neurosis ? Explain its types and which of these lead to criminality.
- 3 Discuss the National Human Rights Commission Guidelines for the application of Psychological techniques in the interrogation of a suspect. Mention its admissibility in the Indian Courts of Law.
- 4 Discuss the techniques, strategic approach and the treatment for the victims of crimes.

(2 × 15 = 30 marks)**II. Write short essay on any *three* of the following :**

- 5 What is Offender Profiling ? Give the stages of preparing one.
- 6 How is substance abuse related to crime causation ? Explain with suitable case studies.
- 7 Explain the Mode of interrogation by P 300.
- 8 Give the principle, procedure and the application of BOES. Add a note on its limitations.
- 9 Draw out the concepts of 'Incapacity to commit crime' laid down in the Indian Penal Code.

(3 × 10 = 30 marks)**III. Write short notes on any *five* of the following :**

- 10 What is 'Thematic Apperception Test' ? Write any two points of its usefulness.
- 11 Draw out the concept of Abnormality from the statistical stand point.
- 12 What is 'Post-Partum stress disorder' ?

III. Write short notes on any *five* of the following :

- 10 Differentiate between Cell Culture and Cell line.
- 11 What is the meaning of Accreditation ? Which is the agency that accredits the Forensic Science Laboratory in India ?
- 12 List out the records to be maintained in the Forensic Science Laboratory.
- 13 What is Hypothesis ?
- 14 Give the importance of 'Impact Factor' in a Journal.
- 15 Explain Kruskal-Walli's test.
- 16 What does the term 'Probability' mean ?
- 17 What is a random variable ?

(5 × 4 = 20 marks)