

Roll No. _____

**M.Sc. (FORENSIC SCIENCE) - 2nd YEAR EXAMINATIONS; JUNE 2018
(SUB.- FORENSIC BIOLOGY AND SEROLOGY; PAPER CODE: 01070202)**

Time: 03:00 Hrs.

Max. Marks: 100

Instructions:

1. Write your Roll No. on the Question paper.
2. Candidate should ensure that they have been provided correct question paper. Complaints in this regard, if any, should be made within 15 minutes of the commencement of the exam. No complaint(s) will be entertained thereafter.
3. The Question paper consists of **Two Parts: Part-I and Part-II having 50 Max. marks for each. Use separate answer books for Part-I and Part-II.** Any mistake in this regard, will be responsibility of the examinee and no complaint(s) will be entertained after the examinations.
4. Attempt the questions as per instruction mentioned with each question. Marks are indicated against each question.
5. Illustrate your answer with diagram wherever required.

PART-I

- Q.1** What is Facial Reconstruction? What are the different methods of facial reconstruction? How it helps in personal identification? **(10)**
- Q.2** Write short notes on **any four**: **(4x5=20)**
- a) Difference between temporary and permanent teeth
 - b) Photo superimposition technique in personal identification.
 - c) Life cycle of a blow fly.
 - d) Criterion of Concordance.
 - e) Insect's succession on Carrion.
- Q.3** Brief description of **any four**: **(4x5=20)**
- a) Forensic significance of Wood.
 - b) Bioterrorism and various agents used.
 - c) Male Vs. Female Pelvis
 - d) Gustafson method of age estimation from teeth.
 - e) Forensic examination of Saliva.

PART-II

SHORT QUESTIONS:

- Q.4** Attempt **any six** questions out of **eight**: **(6x5=30)**
- a) Types of Immunoglobulins
 - b) Confirmatory tests for the presence of blood.
 - c) Define PCR (Polymerase Chain Reaction). Write the complete process of PCR.
 - d) What are Immuno-chromatographic assays? Write their applications in Forensic Science.
 - e) What are the components of PCR? Explain their functions.
 - f) Forensic applications of DNA Profiling.
 - g) How will you identify the species of origin from the body fluids?
 - h) What is full form of CODIS and mention its medico-legal significance?

LONG QUESTIONS:

Q.5 Which is the better term, 'DNA Profiling/DNA Fingerprinting'? Mention the different biological samples used for DNA profiling and how should they be stored and transported till samples reach DNA Laboratory? **(10)**

Q.6 What is Antigen? How many types of blood antigens are present in the body? Explain Secretor and non-secretor status. **(10)**

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M.Sc. (FORENSIC SCIENCE) - 2nd YEAR EXAMINATIONS; JUNE 2018
(SUB.-: FORENSIC BALLISTICS AND ENGINEERING; PAPER CODE: 01070203)

Time: 03:00 Hrs.

Max. Marks: 100

Instructions:-

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5. Illustrate your answer with diagram wherever required.

PART-I (FORENSIC BALLISTIC)

Short Answer Type Questions (Attempt all questions):

(7x5=35)

- Q.1 Caliber
- Q.2 Estimation of range of fire with the wound.
- Q.3 Define ammunition and its composition.
- Q.4 Differentiate between Exit wound and Entry wound.
- Q.5 Define Muzzle velocity and factors affecting it.
- Q.6 What is GSR and elaborate different techniques of its collection.
- Q.7 Rimfire Vs Centrefire ammunition

Long Answer Type Question

(7.5x2=15)

- Q.8 Define ammunition, its types with labeled diagram. What is the difference between rimmed and rimless ammunition.
- Q.9 Define firearm. Explain forensic significance of weapon examination.

PART-II (FORENSIC ENGINEERING)

Short Answer Type Questions (Attempt any eight questions):

(8x5=40)

- Q.1 Give four causes of building collapse.
- Q.2 Static and Dynamic load in structure/building with example.
- Q.3 What are various structural defects in building?
- Q.4 Methods, collection and forwarding of Arson samples. Explain.
- Q.5 Name methods of analysis of petroleum products.
- Q.6 What is fire triangle and tetrahedron?
- Q.7 How do you find origin of fire?
- Q.8 What are the methods of extraction from fire debris samples?
- Q.9 Describe flash point, density and octane number in respect of petroleum products.

Long Answer Type Question:

(2x5=10)

- Q.10 What are causes of vehicular accidents? Elaborate.
- Q.11 How we proceed to find out the cause of fire at the scene of fire/arson and forensic inspection, collection of various physical evidence in detail.

M.Sc. (FORENSIC SCIENCE) - 2nd YEAR EXAMINATIONS; JUNE 2018
(SUB.:- FINGERPRINTS AND QUESTIONED DOCUMENTS; PAPER CODE: 01070201)

Time: 03:00 Hrs.

Max. Marks: 100

Instructions:-

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3. The Question paper consists of TWO parts: Part-I and Part-II **having 50 Max. Marks for each. Use separate answer books for Part-I and Part-II.** Any mistake in this regard, will be responsibility of the examinee and no complaint(s) will be entertained after the examinations.
4. Attempt the question as per instruction mentioned with each question. Marks are indicated against each question.
5. Illustrate your answer with diagram wherever required.

PART-I

- Q.1** Define Fingerprints. How will you classify them? Who gave 10-Digit Fingerprint classification? Explain it. (10)
- Q.2** Write short notes on any four:- (4x5=20)
- a) Difference between Tyre marks and skid marks.
 - b) Type lines and Pattern area.
 - c) Vacuum metal deposition method for fingerprint development.
 - d) Galton's minutiae details.
 - e) Methods of taking fingerprints from dead bodies.
- Q.3** Brief description of any four:- (4x5=20)
- a) Methods of fingerprint development on contaminated surfaces.
 - b) Why fingerprints have become most accepted method of identification?
 - c) What are lip prints? How will you classify them? Explain their forensic significance.
 - d) How will you differentiate Patent, Latent and Plastic prints?
 - e) Do you think fingerprint is the best method of identification? Comment.

PART-II**SHORT QUESTIONS:-**

(6X5=30)

- Q.4** Attempt any six questions out of eight:-
- a) What are Standards for Comparison?
 - b) Comment on Credit card fraud.
 - c) How will you calculate the age of a paper? Will it be relative or absolute age?
 - d) Difference between Intaglio printing and Lithographic printing processes.
 - e) Explain the Principle, procedure and applications of ESDA.
 - f) Differentiate between Genuine and Fake currency note.
 - g) What are the application of UV and IR rays in examining questioned documents?
 - h) Discuss the importance of Handwriting and Document Expert in the field of justice.

LONG QUESTIONS:-

- Q.5** Define Forgery. Explain different types of forgeries. Under which section, the act of Forgery is punishable, Comment. (10)
- Q.6** What do you mean by 'Alterations in Documents'? How can alterations be done? Explain obliterations in detail. (10)

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M.Sc. (FORENSIC SCIENCE) - 2nd YEAR EXAMINATIONS; JUNE 2018
(SUB.:- FORENSIC PSYCHOLOGY; PAPER CODE: 01070204)

Time: 03:00 Hrs.

Max. Marks: 100

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3. The Question paper consists of **Two Pars**: Part-I and Part-II having **50 Max. marks for each**. Use **separate answer books for Part-I and Part-II**. Any mistake in this regard, will be responsibility of the examinee and no complaint(s) will be entertained after the examinations.
4. Attempt all questions. Parts of a question should be attempted in sequential order. Marks are indicated against each question.
5. Illustrate your answer with diagram wherever required.

PART-I

- Q.1** What is the role of Forensic Psychologist? Explain the interviewing techniques which he/she uses to conduct investigations. **(10)**
- Q.2** Write short notes on **any four**: **(4x5=20)**
- a) Human Rights Act
 - b) Litigation Vs. Mediation and Arbitration
 - c) Communication skills required for forensic consultancy.
 - d) Ethical issues in risk assessment.
 - e) Cognitive skills required in criminal cases.
- Q.3** Brief description of **any four**: **(4x5=20)**
- a) HCR-20
 - b) Methods of risk assessment
 - c) Role of family court in child protection.
 - d) Core competency of Forensic Psychologist.
 - e) Comment on Juvenile crimes.

PART-II

SHORT QUESTIONS:

- Q.4** Attempt **any six** questions out of **eight**: **(6x5=30)**
- a) Explain Schizophrenia.
 - b) Difference between hallucinations and delusions.
 - c) What are depressive disorders? Explain any one.
 - d) Role of Psychologist in relation to legal framework.
 - e) Treatment approaches for violent offenders.
 - f) Forensic applications of Brain fingerprinting.
 - g) Comment on admissibility of psychological evidences in court.
 - h) Psychological techniques used while dealing with mental health distress

LONG QUESTIONS:

- Q.5** Define Polygraphy. Write its principle, procedure, interpretations and forensic significance. **(10)**
- Q.6** What are the drugs used in Narco-analysis? Explain different phases of the test. What are its demerits? **(10)**

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M.Sc. (FORENSIC SCIENCE) - 2nd YEAR EXAMINATIONS; JUNE 2018
(SUB.-: QUALITY MANAGEMENT AND CYBER FORENSICS; PAPER CODE: 01070205)

Time: 03:00 Hrs.

Max. Marks: 100

Instructions:

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3. The Question paper consists of **Two Parts**: Part-I and Part-II having **50 Max. marks for each**. Use separate answer books for Part-I and Part-II. Any mistake in this regard, will be responsibility of the examinee and no complaint(s) will be entertained after the examinations.
4. Attempt all questions. Parts of a question should be attempted in sequential order. Marks are indicated against each question.
5. Illustrate your answer with diagram wherever required.

PART-I

- Q.1** Define Accreditation. Explain its need, advantages and disadvantages. What are the general requirements for the competence of Testing and Calibration Laboratories? (10)
- Q.2** Write short notes on **any four**: (4x5=20)
- a) Explain the role of Lead Assessor.
 - b) What do you understand by Subcontracting of tests.
 - c) Corrective and preventive actions.
 - d) ISO/IEC: 17025 Guidelines.
 - e) Explain Internal audit.
- Q.3** Brief description of **any four**: (4x5=20)
- a) Technical requirements for laboratory.
 - b) Explain Quality Manager and Quality Manual.
 - c) Merits and demerits of Biometric system.
 - d) Write about proficiency testing. And why it is done?
 - e) Explain the management requirements for a laboratory to get accredited.

PART-II

SHORT QUESTIONS:

- Q.4** Attempt any **six** questions out of **eight**: (6x5=30)
- a) Describe volatile and non-volatile memory with names.
 - b) Explain Asymmetric cryptography.
 - c) What are the cardinal values of computer forensics?
 - d) Describe data validation using the MDS hash.
 - e) Describe cylinder, head, sector and clusters in a hard disk.
 - f) How does a computer start? Explain booting process.
 - g) Define Hacking and its types with examples.
 - h) Describe various computer viruses.

LONG QUESTIONS:

- Q.5** What are the characteristic issues and challenges in investigation of computer crimes? Discuss in detail with examples. (10)
- Q.6** Describe Computer forensic analysis procedures in detail. (10)
