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MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER M.Sc. FORENSIC SCIENCE DEGREE EXAMINATION – JANUARY 2024 SUBJECT: MFS 603 – APPLIED FORENSIC SCIENCE AND CRIMINAL INVESTIGATION

Tuesday, January 16, 2024

Time: 14:00 – 16:30 Hrs.

Maximum Marks: 50

- Answer ALL the questions.
- ∠ Long Answer Questions:
- 1. Explain the methods of developing latent fingerprints in scene of crime.

(10 marks)

2. Write a detailed note on establishing the authorship of writing.

(10 marks)

- 3. Write short notes on:
- 3A. Determining the age of a writing
- 3B. Critical note on standardization of laboratory
- 3C. Collection and decipherment of charred documents
- 3D. Laboratory Examination of saliva sample
- 3E. Principles of handwriting analysis
- 3F. Sections against expert for unethical conduct.

 $(5 \text{ marks} \times 6 = 30 \text{ marks})$

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FIRST SEMESTER M.Sc. FORENSIC SCIENCE DEGREE EXAMINATION – JANUARY 2024 SUBJECT: MFS 607 – FORENSIC PHOTOGRAPHY

Thursday, January 18, 2024

Time: 14:00 - 16:30 Hrs.

Maximum Marks: 50

- Answer the following.
- ∠ Long Answer Questions:
- 1. Elucidate the concepts of exposure triangle in photography.

(10 marks)

2. Discuss the legal functions of CCTV and surveillance photography.

(10 marks)

- 3. Write short notes on:
- 3A. Automatic and manual mode in professional cameras.
- 3B. Black and white photography.
- 3C. Types of lens used in cameras.
- 3D. Microscopic photography.
- 3E. Panavision.
- 3F. UV photography in forensic scenario.

 $(5 \text{ marks} \times 6 = 30 \text{ marks})$

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FIRST SEMESTER M.Sc. FORENSIC SCIENCE DEGREE EXAMINATION – JANUARY 2024 SUBJECT: MFS 605 – BIOCHEMISTRY

Wednesday, January 17, 2024

| Time: $14:00 - 16:30$ Hrs. | Maximum Marks: 50 |
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- Answer the following in detail:
- 1. Explain Lac operon model. Discuss its regulation in presence of glucose and lactose (5+5=10 marks)
- 2. Explain the various factors affecting the velocity of enzyme catalysed reactions with suitable illustrations

(10 marks)

- 3. Answer all the following:
- 3A. Write one coenzyme functions of Thiamine, Biotin, Folic acid, Cobalamin and pyridoxine

(5 marks)

3B. Explain post-translational modification with 4 examples

(5 marks)

3C. Classify amino acids with examples

(5 marks)

3D. Write the functions of calcium, phosphate and iron in our body

 $(1\frac{1}{2}+1\frac{1}{2}+2=5 \text{ marks})$

3E. Describe the functions and deficiency manifestations of vitamin D

(5 marks)

3F. Write the mechanism of action of steroid hormones

(5 marks)

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MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER M.Sc. FORENSIC SCIENCE DEGREE EXAMINATION – JANUARY 2024 SUBJECT: MFS 601 – BASICS OF FORENSIC SCIENCE

Monday, January 15, 2024

Time: 14:00 - 16:30 Hrs.

Maximum Marks: 50

- Answer ALL the questions.
- ∠ Long Answer Questions:
- 1. Write a detailed note on forensic voice analysis.

(10 marks)

2. Explain soil horizon. Add a note on analysis of soil sample

(10 marks)

- 3. Write short notes on:
- 3A. What is paint? Explain the composition of paint.
- 3B. Principles of forensic science.
- 3C. Glass fractures
- 3D. Crime scene management
- 3E. Need of forensic science in modern era.
- 3F. Forensic analysis of hair sample.

 $(5 \text{ marks} \times 6 = 30 \text{ marks})$

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FIRST SEMESTER M.Sc. FORENSIC SCIENCE DEGREE EXAMINATION – JANUARY 2024 SUBJECT: MFS 609 – POLICE ADMINISTRATION AND VICTIMOLOGY

Friday, January 19, 2024

Time: 14:00 - 16:30 Hrs.

Maximum Marks: 50

- Answer the following questions.
- **∠** Long Answer Questions:
- 1. Explain the functions of "Central Armed Police Forces"

(10 marks)

2. Elucidate in detail about different crime prevention approaches.

(10 marks)

- 3. Write short notes on:
- 3A. Victim precipitation
- 3B. Von Hentig's typology of victims.
- 3C. Rationale for gender sensitization training for police.
- 3D. CBI and IB
- 3E. Powers and functions of Director General of Police.
- 3F. Police regulations in Karnataka Police Act

 $(5 \text{ marks} \times 6 = 30 \text{ marks})$