

C-4648

Sub. Code

99013

B.Sc. DEGREE EXAMINATION

FORENSIC SCIENCE

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

First Semester

GENERAL FORENSIC SCIENCE

(2020 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part - A

(10 × 2 = 20)

Answer **all** questions.

1. Define Forensic Science.
2. State principle of exchange.
3. What is GEQD?
4. List out any four functions of NDTL.
5. Mention any four functions of High Courts in India.
6. List out the advantages of crime scene sketch over photograph.
7. Explain the method of packing a bloody cloth.

8. Mention the formula to find the angle of origin of blood spatter.
9. Explain the qualification required to be a forensic scientist in India.
10. What are leading questions? Explain how to answer them in a court of law.

Part - B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Write a note on the tools and techniques used in forensic analysis.

Or

- (b) Explain the scope and need of forensic science in criminal justice system.

12. (a) Explain the various functions of NICFS.

Or

- (b) What are the major functions of INTERPOL?

13. (a) Explain the relationship between a forensic scientist and prosecutor.

Or

- (b) Write a note on the hierarchical structure of courts in India.

14. (a) Write a note on the packing of evidence.

Or

- (b) What information can be obtained from bloodstain analysis?

15. (a) Explain the duties of a forensic scientist.

Or

(b) What do you understand from the term ethics? How is ethics applicable to a forensic scientist?

Part - C (3 × 10 = 30)

Answer **all** questions, choosing either (a) or (b).

16. (a) Write a detailed note on the structure of forensic labs in India.

Or

(b) Explain the various principles of forensic science.

17. (a) Write a detailed note on the functions of govt, examiner of questioned documents.

Or

(b) Explain the organisational setup and functions of INTERPOL.

18. (a) Write a brief note about the terms Actus Devus, Mens Rea and Modus Operandi. How are they important during the trial of a case?

Or

(b) Write a note on the steps involved in the processing of a crime scene.

C-4649

Sub. Code

99014

B.Sc. DEGREE EXAMINATION

FORENSIC SCIENCE

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

First Semester

GENERAL CHEMISTRY

(2020 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is electrophilic reaction?
2. What do you mean by isomerism?
3. Explain the term levo rotatory.
4. What do you mean by Z nomenclature?
5. Write the general formula for carbohydrates.
6. What are alkaloids?
7. List out the functions of Mg ion in the human body.
8. Draw the structure of methyl lithium.

9. What do you mean by significant figures?
10. List any four types of extraction you know.

Part B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain briefly about inductive effect.

Or

- (b) Explain SN_1 mechanism.

12. (a) Write a note on Fischer projection.

Or

- (b) Explain cis-trans isomerism with example.

13. (a) Comment on alkenes with one example.

Or

- (b) Explain hyperconjugation effect.

14. (a) Explain the merits and demerits of batch extraction.

Or

- (b) Explain the merits and demerits of continuous extraction.

15. (a) Explain the structure of methyl lithium.

Or

- (b) Explain the structure of Ferrocene.

Part C

(3 × 10 = 30)

Answer **all** questions, choosing either (a) or (b).

16. (a) What are stereoisomers? Explain their structure and properties.

Or

- (b) Explain the E, Z systems of nomenclature.

17. (a) Write a detailed note about reactive intermediates.

Or

- (b) Explain the properties of enantiomers.

18. (a) Write notes on terpenes with appropriate examples.

Or

- (b) Explain different types of chemical reactions with appropriate examples.

C-4650

Sub. Code

99015

B.Sc. DEGREE EXAMINATION

FORENSIC SCIENCE

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

First Semester

GENERAL BIOLOGY

(2020 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is cytology?
2. List out the functions of lysosomes.
3. What are proteins?
4. Explain the role of lipids in the animal body.
5. What is the forensic significance of microorganisms?
6. How to sterilize items in a forensic lab?
7. What are antigens?
8. What is the scope of immunochemistry?

9. What is physiology?
10. Which are the organs involved in the human reproductive system?

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Sketch and label the diagram of animal cell.
Or
(b) What is active transport? Explain its working in the human system.
12. (a) Explain the functions of proteins in the human body?
Or
(b) What is the biological importance of glucose?
13. (a) Explain Koch's postulates.
Or
(b) Explain the culture of bacteria in a medium you know.
14. (a) List out the antigen antibody reactions. Write a brief note about each of them.
Or
(b) How antigen antibody reactions are important in the blood transfusion?
15. (a) Which are the biological systems of temperature regulation in the body? Explain.
Or
(b) How locomotive system works in human body?

Part C

(3 × 10 = 30)

Answer **all** questions, choosing either (a) or (b).

16. (a) Explain the chemical composition of cells.

Or

- (b) Explain the functions of protoplasm, mitochondria and nucleus of a cell.

17. (a) What are lipids? Explain their functions with structure.

Or

- (b) Explain the scope of microbial forensics.

18. (a) Explain the principle of precipitation and flocculation reactions.

Or

- (b) Explain the functioning of the excretory system in the human body.

C-4651

Sub. Code

99023

B.Sc. DEGREE EXAMINATION

FORENSIC SCIENCE

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

Third Semester

CRIME SCENE MANAGEMENT

(2020 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define crime.
2. Compare and contrast indoor and outdoor crime scene.
3. What is the L Scale? Explain its use.
4. What is the strip method of search?
5. How to collect fingerprints from the crime scene?
6. How can blood samples be collected from crime scenes?
7. Which is the first step of an arson scene investigation?
8. What do you mean by hypothesis?

9. What is the chain of custody?
10. List any four documents to be submitted to FSL along with the evidence package.

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) What is direct evidence and corroborative evidence? Explain with examples.

Or

- (b) Explain the actions that should be taken by the first responding officer at a scene of crime.

12. (a) Explain the steps involved in the photography of crime scenes.

Or

- (b) Compare polar coordinate method with triangulation method.

13. (a) How to pack evidence properly?

Or

- (b) What is the method of packing explosive materials?

14. (a) What is fire triangle?

Or

- (b) How to identify an arson scene from an accidental fire scene?

15. (a) How to form a valid questionnaire for FSL?

Or

- (b) What is the chain of custody? How can the integrity of evidence be ensured?

Part C

(3 × 10 = 30)

Answer **all** questions, choosing either (a) or (b).

16. (a) Explain in detail the steps of crime scene investigation.

Or

- (b) What is the different classification of evidence? Explain them in detail.

17. (a) List out the different search methods. Explain the utility of the zone method of search.

Or

- (b) Explain the procedure of search in the case of aeroplane crash.

18. (a) How to search, collect and pack trace evidence? Explain all the methods.

Or

- (b) List out all the documents to be submitted to FSL along with evidence. Prepare a sample forwarding letter.

C-4652

Sub. Code

99024

B.Sc. DEGREE EXAMINATION

FORENSIC SCIENCE

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

Second Semester

IMPRESSION ANALYSIS

(2020 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part - A

(10 × 2 = 20)

Answer **all** questions.

1. What are tool marks?
2. How do tool marks get uniqueness?
3. How to collect lip prints?
4. Explain the scope of footwear impression.
5. What is ear print?
6. How to collect palm prints?
7. What are fingerprints?
8. What is the biological function of fingerprints?

9. What are the types of fingerprints?
10. What are plastic prints?

Part - B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) What are the types of tool marks? Explain their formation.

Or

- (b) Explain the working of the comparison microscope.

12. (a) How to recover footwear impressions from soil?

Or

- (b) How footwears attain individuality?

13. (a) Explain about the uniqueness of palm prints.

Or

- (b) How to collect lip print from a suspect?

14. (a) What are the chemical methods of development of fingerprints?

Or

- (b) How to develop fingerprint from a dead body?

15. (a) Explain the various visualisation techniques for fingerprints.

Or

- (b) Make a note on AFIS.

Part - C

(3 × 10 = 30)

Answer **all** questions, choosing either (a) or (b).

16. (a) How does a tool attain its individuality? Do you think prolonged use changes the individuality of the tool? Substantiate your answer.

Or

- (b) What are the class characteristics of a tool? Explain the way in which the comparison microscope is used for the comparison of individual characteristics.
17. (a) What are the different methods of fingerprint development? Explain in detail.

Or

- (b) How to collect, pack, and compare footwear impressions?
18. (a) List out with rough sketches the minutiae of fingerprints.

Or

- (b) Explain the chemistry behind various chemical methods of fingerprint development.

C-4653

Sub. Code

99025

B.Sc. DEGREE EXAMINATION

FORENSIC SCIENCE

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

Second Semester

INSTRUMENTATION PHYSICAL

(2020 onwards)

Duration: 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is spectroscopy?
2. What is density?
3. What do you mean by refractive index?
4. Explain the physics behind fluorescence.
5. State Beer-Lambert's law.
6. List the applications of UV spectroscopy.
7. What is the major application of FTIR?
8. What is the principle of XRF?

9. How does the NAA work?
10. List out the forensic application of polarography.

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain density gradient method of analysis of soil.

Or

- (b) What is refractive index? How to find out the RI of a broken glass piece?

12. (a) State and derive Beer - Lambert's law?

Or

- (b) Explain the electron transition in UV Vis spectroscopy.

13. (a) Explain the principle of AAS.

Or

- (b) Explain the instrumentation of NAA.

14. (a) What is the principle of XRD?

Or

- (b) Explain the working of NMR spectroscopy.

15. (a) Explain the principle of mass spectroscopy.

Or

- (b) What is the fast atom bombardment (FAB) method of ionisation?

Part C

(3 × 10 = 30)

Answer **all** questions, choosing either (a) or (b).

16. (a) Explain any four ionisation techniques for mass spectroscopy.

Or

- (b) Explain about any three detectors of mass spectroscopy.

17. (a) Explain the principle and instrumentation of pulse polarography.

Or

- (b) Explain the principle, working and application of AAS.

18. (a) Explain the fingerprint region of IR spectroscopy?

Or

- (b) What do you mean by FTIR? Explain.
-