

B.Sc. Semester - 5 (Remedial) (CBCS) Examination
Feb/Mar. -2021 (NEW COURSE)
Forensic Chemistry (Core)

Time: 1:30 Hours**Marks: 42****Instructions:**

1. Figures to the right indicate marks.
 2. There are five questions in the question paper.
 3. Answer any three of the following questions.
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Q – 1 (A) Objective type questions**4**

- 1) The word “Forensic” comes from the Latin term “forensis” meaning.
- 2) _____, the author of the Sherlock Holmes stories, Popularized the scientific crime detection methods?
- 3) The Lambert-beer law is mainly applied for which analytical instruments?
- 4) IR analysis is mainly used to determine the _____ of the compound.

Q – 1 (B) Answer in brief (Any 1 out of 2)**3**

- 1) Explain in brief about Legal aspects of Forensic Chemistry.
- 2) Explain in brief about the presumptive test with one example.

Q – 1 (C) Write a note on (Any 1 out of 2)**7**

- 1) Define Forensic science and Forensic Chemistry, write a note on different type of Case/Exhibits and its preliminary screening which comes under the forensic chemistry division.
- 2) Discuss about Organic-Inorganic analysis method and micro-chemical methods of analysis.

Q – 2 (A) Objective type questions**4**

- 1) A synthetic form of opium was developed by Germany during World War-II. This is known as _____.
- 2) What is the key chemical (main ingredient) required to make Methaqualone?
- 3) Give the name of well known “Date Rape” drug?
- 4) Which chemical test can be done for analysis of Tetra Hydro Cannabinol?

Q – 2(B) Answer in brief (Any 1 out of 2)**3**

- 1) Explain in brief about drug dependence and drug tolerance.
- 2) Define Precursor chemicals and Enlist the name of precursor chemicals according to NDPS Act.-1985.

Q – 2 (C) Write a note on (Any 1 out of 2)**7**

- 1) Define & Classify Narcotic drugs and Psychotropic substance and draw the structure of at least one from each class.
- 2) Write a note on mandatory provision of NDPS Act-1985.

Q – 3 (A) Objective type questions**4**

- 1) Which elemental poison could be detected in hair even many years after death?
- 2) Give the name of spinal cord poison?
- 3) In Prussian Blue Test which poison gives the blue colored precipitates?
- 4) The amount (dose) of a chemical which produces death in 50% of a population of test animals is known as:

Q – 3 (B) Answer in brief (Any 1 out of 2)**3**

- 1) Answer in brief about concepts of forensic toxicological examination and its significance
- 2) Described the general characteristics of ideal homicidal and suicidal poison

- Q – 3 (C) Write a note on (Any 1 out of 2)** 7
- 1) Define & Classify poison and enlist all the method of extraction and isolation of poison from biological matrix & explain any one in brief.
 - 2) Write a note on analysis of acidic, basic and neutral poison(drug).
- Q – 4 (A) Objective type questions** 4
- 1) Which of chemical(dye) is used for coloring PDS kerosene?
 - 2) _____ is the density range of typical standard High speed diesel at 15 °C temperature.
 - 3) Give the definition of “Firepoint”
 - 4) Oil red dye of Motor Gasoline (petrol) give the value of $\lambda_{\max}$ in UV @_____ nm.
- Q – 4 (B) Answer in brief (Any 1 out of 2)** 3
- 1) Define Arson & explain the chemistry of fire.
 - 2) Discuss about UV-Spectroscopic analysis of Petrol and Kerosene Dye (Color generating content).
- Q – 4(C) Write a note on (Any 1 out of 2)** 7
- 1) (A) Write a note on various fraction of petroleum and their commercial uses. &
(B) Discuss the Fire triangle and fire tetrahedron.
 - 2) (A) Discuss about management of Arson crime scene &
(B) Write a note on distillation of Diesel.
- Q – 5 (A) Objective type questions** 4
- 1) Which chemical is used in trap cases to reduce the fading of pink coloration of Phenolphthalein?
 - 2) Which is the main component in the composition of Jaggery?
 - 3) Which color is obtained at last to indicate the presence of methanol in Chromotropic Acid Test?
 - 4) Which physical evidence can be used for analysis to determine the level of intoxication in drunken driving(driver) cases?
- Q – 5 (B) Answer in brief (Any 1 out of 2)** 3
- 1) Enlist the methods of prevention of food adulteration and explain about any one.
 - 2) Discuss in brief about the analytical techniques used in the analysis of alcohol & other illicit liquor.
- Q – 5 (C) Write a note on (Any 1 out of 2)** 7
- 1) Write a note on absorption, de-toxification and excretions of alcohol.
 - 2) Write a note on Examination of chemicals used in bribe trap cases and explain their chemistry (Mechanism) with Chemical structure.
