

B.Sc. (FS) Semester - 5 (Remedial) (CBCS) Examination
March/April-2023 (NEW COURSE)
Forensic Chemistry(Core)

Time: 2:30 Hours

Marks: 70

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

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- Q-1 (A) Answer in short:** **04**
- (1) Give the full form of ICP-MS and XRD?
 - (2) Name the philosopher who was sentenced to death by drinking Hemlock Poison.
 - (3) What is Aqua-regia solution?
 - (4) Which types of Frequencies are used in NMR Spectroscopy?
- Q-1 (B) Answer any one in brief:** **03**
- (1) Define NMR spectroscopy with diagram?
 - (2) Write the legal aspects of Forensic Chemistry?
- Q-1 (C) Answer any one in detail:** **07**
- (1) Give a brief note on GC-MS with proper diagram?
 - (2) Write a note on Examination of Chemical Exhibits in chemistry division?
- Q-2 (A) Answer in short:** **04**
- (1) Name the types of Narcotic Drugs?
 - (2) Give the Full form of NDPS.
 - (3) Write an example of Non-Addictive Drug?
 - (4) Which Enzymes are used for catalyzing in Phase-2 reaction?
- Q-2 (B) Answer any one in brief:** **03**
- (1) Give brief introduction to the Mechanism of Drug Toxicity & its types.
 - (2) Write the classification of Barbiturates.
- Q-2 (C) Answer any one in detail:** **07**
- (1) Write a short note on Opium Poppy plant as Narcotic Drugs?
 - (2) Define Drug Dependence, How the drug abuse can lead to Dependences, Recognize their Symptoms?
- Q-3 (A) Answer in short:** **04**
- (1) _____ used for Preservative of Blood.
 - (2) Name any two types of Distillation method.
 - (3) Which techniques are used for the extraction of Non-Volatile Inorganic Poison?
 - (4) Give the difference between Toxic and Toxin.
- Q-3 (B) Answer any one in brief:** **03**
- (1) What is/are the sample collection and preservation techniques for different evidence related to poisoning cases?
 - (2) Write the classification of poison based on their chemical properties?
- Q-3 (C) Answer any one in detail:** **07**
- (1) Explain the Digestion technique used for the Extraction of poison.
 - (2) Classification of Poison based on their mode of Action and chemical Properties?

- Q-4 (A) Answer in short:** **04**
- (1) What is the Density of kerosene at 15°C temperature in CGS unit?
 - (2) Write Full form of LDO & HSD.
 - (3) What is Fire Triangle Mode?
 - (4) Which solvent system is used in TLC for Petrol?
- Q-4 (B) Answer any one in brief:** **03**
- (1) Which evidence should be collected in Arson Cases?
 - (2) Define Flash point and Smoke point in relation to kerosene?
- Q-4 (C) Answer any one in detail:** **07**
- (1) What are the different types of cases included under Arson?
 - (2) Which parameters can be used to detect the Adulteration in Kerosene?
- Q-5 (A) Answer in short:** **04**
- (1) The colorless solutions of phenolphthalein give the lambda max value at_____.
 - (2) Write the uses of Methanol and Ethanol?
 - (3) Give the chemical formula and structure for Anthracene Powder?
 - (4) Write the test for Rancidity in Ghee?
- Q-5 (B) Answer any one in brief:** **03**
- (1) How is Detoxification done by body in case of Alcohol?
 - (2) Write the physical properties for ethanol and methanol?
- Q-5 (C) Answer any one in detail:** **07**
- (1) Explain Breath testing analyzer used for alcohol measurement?
 - (2) Give the Chemical analysis for both ethyl alcohol and methyl alcohol?
