

B.Sc. (Part—I) Semester—II Examination
2S : FORENSIC SCIENCE
(Forensic Chemistry)

Time : Three Hours]

[Maximum Marks : 80

- Note :—** (1) All questions are compulsory.
(2) Question No. 1 carries 8 marks, while all other questions carry 12 marks each.
(3) Draw labelled diagrams and write equations wherever necessary.
(4) Use of calculator is allowed.

1. (A) Fill in the blanks :
- (i) Malicious burning of property is called _____.
 - (ii) _____ spectroscopy is used to detect metallic poisoning.
 - (iii) _____ is a stimulant class of drug.
 - (iv) Column is _____ of Gas chromatography. 2
- (B) Select correct answer from the given alternatives :
- (i) Which of the following is the true narcotics substance ?
 - (a) Codeine (b) Heroin
 - (c) Morphine (d) All of these
 - (ii) Which of the following is spinal plant poisoning ?
 - (a) Atropa belladonna (b) Cannabis sativa
 - (c) Papaver somniferum (d) Nux vomica
 - (iii) Which of the following is a separation technique ?
 - (a) Chromatography (b) X-ray fluorescence
 - (c) Neutron activation analysis (d) None of these
 - (iv) Which part of Datura plant is poisonous ?
 - (a) Seed (b) Fruit
 - (c) Root (d) All parts 2
- (C) Answer the following in **one** sentence each :
- (i) Why cut is made in the unripe pod of poppy ?
 - (ii) What is mobile phase of Gas chromatography ?
 - (iii) Why food is adulterated ?
 - (iv) What is adsorption ? 4
2. (A) What is inorganic metal poisoning ? Give colour test of copper. 4
- (B) Explain paint analysis in forensic investigation. 4
- (C) Distinguish between quantitative and qualitative analysis. 4
- OR**
3. (P) Why tea, coffee and tobacco are toxic ? Explain. 4
- (Q) How is screening and sampling method applicable in forensic investigation ? Explain. 4
- (R) Give chemical composition of kerosene and petroleum products. 4

4. (A) Explain the role of Atomic absorption spectroscopy in forensic investigation. 4
(B) What is role of column and detector in HPLC ? 4
(C) Gas chromatography is separation technique. Explain. 4

OR

5. (P) Give forensic importance of Gas chromatography. 4
(Q) What is difference between Atomic absorption spectroscopy and flame spectroscopy ? 4
(R) Write in brief about detectors. 4
6. (A) How is poisoning case handled by forensic expert ? Explain. 4
(B) Give one example each of metallic and animal poisoning case. 4
(C) What is difference between poison and medicine ? Explain toxicology. 4

OR

7. (P) What is cattle poisoning ? Explain with example. 4
(Q) What is the method of collection and forwarding of sample for examination ? Explain. 4
(R) Explain the process of collection of poisoning sample in post-mortem cases. 4
8. (A) Discuss different types of intake methods of drugs in addicts. 4
(B) How are drug addicts identified on the basis of signs and symptoms ? Explain. 4
(C) Write in short narcotic drugs and psychotropic substances. 4

OR

9. (P) How are drug addicts involved in crime ? Explain. 4
(Q) Explain analytical technique for cannabis and cannabinoids. 4
(R) What is drug toxicity ? Explain its metabolic mechanism. 4
10. (A) What are consequences of drunken driving ? 4
(B) What is intoxication ? Explain alcohol and prohibition. 4
(C) What are alcoholic and non-alcoholic beverages ? Explain. 4

OR

11. (P) Explain sampling process in alcohol cases. 4
(Q) Discuss analytical techniques for analysis of alcohol cases. 4
(R) Why alcohol is absorbed fast in blood if stomach is empty than stomach having food ? 4
12. (A) Explain management and evaluation process of Arson cases. 4
(B) What are different types of food adulteration ? 4
(C) Write in brief types of Arson cases. 4

OR

13. (P) What is the role of Chief Commissioner for Drug Control Act, 1940 ? Explain. 4
(Q) Explain the role of government bodies for prevention of food adulteration. 4
(R) Write in brief difficulties in investigation of Arson cases. 4