AQ–671

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 **1** carries **8** marks, while each of remaining **SIX** questions carry **12** marks.

(3) Draw diagrams and write equations wherever necessary.

(4) Use of calculator is allowed.

1. (A) Fill in the blanks : 2

(i) Proof spirit contains _____ percentage of ethanol.

(ii) Malecious burning of properties is called _____ .

(iii) Contamination of pure food is called _____ .

(iv) Over dose of medicine may act as _____ .

(B) Select correct answer from given alternatives : 2

(i) Arson can be analysed by :

(a) Gas chromatography

(b) HPIC

(c) GC-MS

(d) All

(ii) Alcohol poisoning is due to :

(a) Methanol in illicit Liqure

(b) Ethanol in illicit Liqure

(c) Propanol in illicit Liqure

(d) Iso-propanol in illicit Liquire

(iii) Octane number is related to :

(a) Gasoline

(b) Kerosene Oil

(c) Diesel Oil

(d) Lubricating Oil

(iv) Alkaline hydrolysis of oils are called :

(a) Saponification

(b) Fermentation

(c) Dizotisation

(d) Rancidification

(C) Answer the following in **ONE** sentence each : 4

(i) What are dyes ?

(ii) What is poison ?

(iii) Define qualitative analysis.

(iv) What is drug tolerance stage ?

UNIT—I

2. (A) Explain Saponification method of analysis. 4

(B) Discuss the role of fertilizers, dyes and drugs in Forensic Investigation. 6

(C) Write in brief about petroleum refining. 2

OR

3. (P) What are Paints ? Give the classification of paints. 6

(Q) What are Oils ? 2

(R) Give composition and forensic applications of cement. 4

UNIT—II

4. (A) Explain instrumentation of Gas chromatography. 4

(B) Give importance and Forensic Applications of HPIC. 4

(C) Discuss working of Atomic Absorption Spectroscopy. 4

OR

5. (P) Explain working of column and detector in HPIC. 4

(Q) What is Gas Chromatography ? Explain its principle. 4

(R) How is metallic sample analysed by Atomic Absorption Spectroscopy ? Explain. 4

UNIT—III

6. (A) What is Toxicology ? Give the difference between medicine and poison. 4

(B) Discuss types of metallic and animal poisoning with one example each. 4

(C) Explain role of forensic experts in analysis of poisoning cases. 4

OR

7. (P) Explain the method of collection of poisoning sample in post-mortem cases. 4

(Q) How is collected sample forwarded for examination ? Explain. 4

(R) What is plant poisoning ? Explain cattle poisoning. 4

UNIT—IV

8. (A) Write brief account on Narcotic drugs and Psychotropic substances. 4

(B) What are signs and symptoms for identification of drug addiction ? 4

(C) Discuss different types of injesion of drugs. 4

OR

9. (P) Explain drug metabolism and drug toxicity metabolism. 4

(Q) Give brief account of analytical technique used in analysis of cannabis and cannabinoids. 4

(R) Write in brief, relation between drug addicts and crime. 4

UNIT—V

10. (A) Give the classification of alcoholic and non-alcoholic beverages. 4

(B) Write in brief about alcohol and prohibition. 4

(C) Explain the consequences of drunken driving. 4

OR

11. (P) Absorption of alcohol in blood is fast in empty stomach than stomach having food. Explain. 4

(Q) Explain sampling precaution in alcohol cases . 4

(R) Explain process of excretion of alcohol in alcohol intoxication. 4

UNIT—VI

12. (A) Define arson. How they are classified ? Explain. 4

(B) What is clue material ? Explain arson exhibit analysis by instrumental technique. 4

(C) Discuss management of Arson case for evaluation. 4

OR

13. (P) What is Food Adulteration ? Give types of food adulteration. 4

(Q) Discuss role of Government bodies involved for prevention of food adulteration. 4

(R) Discuss in brief Narcotic drugs and Psychotropic Substances Act, 1985. 4