

M.Sc.(Forensic Sci.) Semester - 4 (CBCS) Examination
March/April - 2024 (NEW COURSE)
Advance Forensic Chemistry (Core)

Time: 02:30 Hours

Marks: 70

Instructions:

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

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- Q.1 (A) Answer the following (04)**
(1) Explain the nuclear forensic and nuclear explosive devices.
(2) Give the comparison between α , β and γ radiation with their penetration power.
- Q.1 (B) Answer any two questions out of three. (10)**
(1) Give brief explanation about nuclear stability with suitable example.
(2) Explain the working principle of Neutron activation analysis with diagram.
(3) Describe the types of radioactive emission.
- Q.2 (A) Answer the following (04)**
(1) Write a note on vesicants.
- Q.2 (B) Answer any two questions out of three. (10)**
(1) Describe the biosensors instrumental techniques for detection of chemical warfare agent.
(2) Explain the physical and biochemical properties with toxic effects of the following
i. Blood agent
ii. Nerve agent
iii. Choking agent
(3) Give the classification of chemical warfare agents.
- Q.3 (A) Answer the following (04)**
(1) Write a note on eutrophication and its effects.
- Q.3 (B) Answer any two questions out of three. (10)**
(1) Explain the responsible factors for soil pollution.
(2) Write a note on types of nutrients and their applications.
(3) Describe the parameters of water quality assessment.
- Q.4 (A) Answer the following (04)**
(1) Explain the hall marking and purpose of hall marking.
- Q.4 (B) Answer any two questions out of three. (10)**
(1) Give the brief analysis of Gold polishing powder.
(2) Explain the scope and significance of metal and alloys in forensic science.
(3) Write a note on examination of gold cheating cases.
- Q.5 (A) Answer the following (04)**
(1) Give the difference between pigment and dye with examples.
- Q.5 (B) Answer any two questions out of three. (10)**
(1) Describe the collection methods and forensic examination of Phenolphthalein.
(2) Explain the classification of dyes on the basis of their process.
(3) Give the difference between natural and synthetic fiber.
