

MSc Sem.-1 Examination

403

Forensic Science

February-2025

[Max. Marks : 70]

Time : 2-30 Hours]

Ques.1 Answer the following questions:

- i. Give history of ancient firearms. 7Marks
- ii. Explain the action mechanism of AK 47 rifle. 7Marks

OR

- i. Give the structure of a Smooth bore cartridge with a labelled diagram. 7Marks
- ii. Describe the choke in shotguns, with significance of its ballistic parameters. 7Marks

Ques.2 Answer the following questions:

- i. What is rifling? Explain ballistic characteristics achieved due to rifling. 7Marks
- ii. Illustrate the effect of air resistance on a trajectory, base drag, yaw, shape of projectile, and stability. 7Marks

OR

- i. Give classification of propellant powder based on rate of decomposition. 7Marks
- ii. Differentiate between entry and Exit wounds. 7Marks

Ques.3 Answer the following questions:

- i. Write a note on 'Cartridge - Firearm Linkage'. 7Marks
- ii. Write a note on estimation of a range of shotgun firing by examination of Firearm wound. 7Marks

OR

- i. Give the mechanism of formation of GSR and describe the collection, spot test chemical test, and identification of the shooter. 7Marks
- ii. Write a note on 'Bullet - Firearm Linkage'. 7Marks

Ques.4 Answer the following questions:

- i. What are IEDs? Explain the mechanism and circuit diagrams of IEDs. 7Marks
- ii. Explain the blast effect resulting from an explosion and describe the different stages of pre-blast and post-blast effects. 7Marks

OR

- i. Define explosives and provide a comprehensive classification of explosives, including three examples of each explosive. 7Marks
- ii. Outline in detail the procedures for managing an explosives crime scene, including initial response, securing and documenting the scene, collecting and preserving evidence. 7Marks

Ques.5 Attempt any seven out of twelve.

14Marks

1. What are characteristics of explosives?
2. Give different types of explosions.
3. Mention test for Nitrates.
4. is not used as a primer in cartridge:
A) Hg fulminate B) Ammonium nitrate C) Lead Azide D) Lead styphnate
5. Define Forensic Ballistics
6. What is the propellant charge?
7. Perforated disc-shaped propellant grains are found in progressive burning powders. (True/False)

E1H10-2

8. What is ballistic coefficient?
9. What is sectional density?
10. Give the calibre (in mm) of the INSAS rifle.
11. How many no. of pellets per 28.35gm of projectile charge present in SG cartridge?
12. What is non explosive explosion?

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