

Roll No.

Total Pages : 3

CMDQ/D-23

5173

FORENSIC BALLISTICS & EXPLOSIVES

Paper–M–FSC 301

Time allowed : 3 Hours]

[Maximum Marks : 80

Note : Attempt **five** questions in all, selecting **one** question from each unit. Questions No. **1** is compulsory.

Compulsory Question

1. Give a brief explanation on the following: $8 \times 2 = 16$
- (i) Aircushion wad (ii) Ballistic DATA base
- (iii) Blasting cap (iv) Piobert's rule
- (v) What is muzzle break?
- (vi) What is proof mark?
- (vii) What is the temporary and permanent cavity in firearm injury?
- (viii) What is the use of taggant chips in explosive?

UNIT-I

2. Give a detailed account on the following:
- (a) Barrel characteristics of smooth and rifled bore firearms. 10
- (b) Semi-automatics and automatic firearms mechanism. 6

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3. Give an account on the following:
- (a) Smokeless propellants, write the advantage of smokeless powder over black powder. 8
- (b) Compositional aspects of bullets. 8

UNIT-II

4. Explain the following:
- (a) Effect of propellant particles shape on pressure inside the barrel. 4
- (b) Factors affecting external ballistics. 12
5. Give a detailed account on the factors affecting internal ballistics. Write the medico-legal aspects on firearms injury. 16

UNIT-III

6. Give a detailed account on the following:
- (a) Determination of firing range. 10
- (b) Shot pattern testing. 6
7. Explain composition & theory of GSR. Elaborate identification techniques and significance of GSR. 16

UNIT-IV

8. Explain the following:
- (a) Define explosive
- (b) Chemistry of explosion
- (c) Classify explosive substances with suitable examples. 16

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9. Elaborate the following: $2 \times 8 = 16$

- (a) Pyrotechniques and Improvised explosive devices.
- (b) Confirmatory techniques for identification of explosive residue.