

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: 8×2=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

**5173/K/250/50**

**P.T.O.**

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

**5173/K/250/50**

**2**

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

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