

C 42004

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Name.....

Reg. No.....

**FOURTH SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY)
EXAMINATION, APRIL 2023**

(CBCSS)

Forensic Science

FSC 4E 29—EXPLOSIVE ANALYSIS AND POST BLAST INVESTIGATION

(2020 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

Section A

*Answer any **four** questions.
Each question carries 2 weightage.*

1. Expand the following :
 - (A) RDX ; and
 - (B) PETN.
2. Citing examples, differentiate between primary and secondary explosives.
3. Write a short note on any *two* cation tests used in the analysis of explosive residues
4. Name the components of an explosive train with the help of an illustration.
5. Explain Detonators with respect to explosive devices.
6. Give the significance of Pyridine extract in explosive residue analysis.
7. What is Brisance ? When is it observed ?

(4 × 2 = 8 weightage)

Section B

*Answer any **four** questions.
Each question carries 3 weightage.*

8. Write a note on the different types of Improvised Explosive Devices.
9. What are the different types of initiating systems which can be employed for a delayed time set-up explosive device ? Give examples.

Turn over

10. Give the classification of explosives according to application with examples.
11. Write a note on Inorganic and Water extract for analysis of explosive residues.
12. Write a note on effect of Molotov cocktail and Booby trap.
13. What is oxygen balance ? Give its significance.
14. Write a note on explosion process.

(4 × 3 = 12 weightage)

Section C

Answer any two questions.

Each question carries 5 weightage.

15. In case of an explosion, as investigating officer, how will you proceed with the following :
 - (i) Scene investigation.
 - (ii) Post blast residue collection.
16. Discuss the systematic examination of explosive residues in a forensic laboratory :
 - Preliminary testing.
 - Confirmatory instrumental analysis.
17. Elaborate on effects of explosion.
18. On September 11, 2001, a hijacked American Airlines Boeing 767 loaded with 20,000 gallons of jet fuel crashed into the north tower of the World Trade Center in New York City. The impact left a gaping, burning hole near the 80th floor of the 110-story skyscraper, instantly killing hundreds of people and trapping hundreds more in higher floors. The collision caused a massive explosion that showered burning debris over surrounding buildings and the streets below.

Answer the following :

- (a) State the explosive in the above case. Which class does it belong to ?
- (b) Write a detailed note on explosion hazards.

(2 × 5 = 10 weightage)