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MME-011

**POST GRADUATE CERTIFICATE IN
MEDICAL MANAGEMENT OF
CBRNE DISASTER PROGRAMME
(PGCMDM)**

Term-End Examination

June, 2026

MME-011 : BASICS OF CBRNE

Time : 3 Hours

Maximum Marks : 70

Note : (i) *There are three parts : A, B and C.*

(ii) *All parts are compulsory.*

(iii) *Kindly be precise in your answers.*

Part—A

1. Answer any *one* of the following in about **700** words :

- (a) Enumerate the various equipments used in area monitoring and personal monitoring with respect to radiation exposure. Explain in detail about one area monitoring device and one personal monitoring device. 6+3+3=12

- (b) Write in detail in around 700 words, about biological effects of radiation. Explain the term 'radio-protectors' and 'radio sensitizers'. 8+2+2
2. Write short notes on any *two* of the following topics in around **300-400** words each : 2×6=12
- (a) Emergency management plan for Radiological disposal device explosion.
- (b) Fukushima Daiichi disaster and INES scale.
- (c) Define following terms : Exposure, Equivalent dose, Tissue weighting factor.

Part—B

3. Answer any *one* of the following in around **700** words :
- (a) What are the ideal properties of a biological agents used for bioterrorism ? Classify the bioterrorism agents with examples and explain the techniques used for their detection. 4+3+5

- (b) Discuss 'Microbial forensics'. Discuss how the clinical specimens are collected and diagnostic methods used for detection of plaque in around 700 words. 6+6
4. Write short note on any 'two' of following in **300-400** words each : 2×6=12
- (a) Laboratory response network for bioagents
- (b) Enumerate the steps in outbreak investigations of a possible bioevent agent
- (c) Environment sampling in bioterrorism

Part—C

5. Answer any *one* of the following in **700** words :
- (a) Classify the explosives. What are the type of injuries caused by explosive ?. Briefly mention the 'field triage' followed in such conditions. 3+4+5

(b) Classify the chemical warfare agents.

Describe in detail about : 6+3+3

(i) Choking agents

(ii) Riot control agents

6. Write short note on any 'two' of the following
in **300** words each : 2×5=10

(a) Chemical weapons convention

(b) Chromatographic techniques used for
chemical detection

(c) Epidemiological triad

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