

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)**

**CLASS: BTECH
BRANCH: CHEM**

**SEMESTER: IV
SESSION: SP/2025**

SUBJECT: CL235 SAFETY AND HAZARDS IN PROCESS INDUSTRIES

TIME: 2 HOURS

FULL MARKS: 25

INSTRUCTIONS:

1. The total marks of the questions are 25.
 2. Candidates attempt for all 25 marks.
 3. Before attempting the question paper, be sure that you have got the correct question paper.
 4. The missing data, if any, may be assumed suitably.
 5. Tables/Data handbook/Graph paper etc. to be supplied to the candidates in the examination hall.
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| Q1 Why safety is a must in an industry? Discuss. How will you create safety awareness among the workers? | [5] | CO-1 | BL2 |
| Q2 Define the following terms:

(i)Sprays (ii) MSDS
(iii)LEL (iv) UEL | [5] | CO-2 | BL2 |
| Q3 If the BLEVE takes place in a Horton Sphere of capacity 200 Ton. What will be the radiative flux incident on object at a distance of 200 m? What will be the duration of fire ball. [E=270 Kw/m ²] | [5] | CO-2 | BL2 |
| Q4 Define and discuss the differences between the following terms:
a. Detonation and Deflagration
b. Fire and Explosion | [5] | CO-2 | BL2 |
| Q5 Discuss the phenomena of Boiling Liquid Expanding Vapour Explosion (BLEVE). | [5] | CO-3 | BL2 |

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