Code No: C5104 **R09**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.Tech I Semester Examinations March/April-2011
CHEMICAL PROCESS SAFETY
(CHEMICAL ENGINEERING)

Time: 3hours **Max.Marks:60**

Answer any five questions
All questions carry equal marks

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1. Explain the safety measures to be followed in a process industry located in India. [12]

2. Explain the DOW procedures for safety assessment. [12]

3. As a Chemical Engineer, suggest the different safety methods be followed to avoid accidents like Flixborough Chemical Plant Disaster. [12]

4. a) Explain: Confined and Unconfined explosions.
   b) Explain with a neat figure: Explosion apparatus for Dusts. [12]

5. Explain: HAZOP analysis in detail. Also, Explain FAULT TREE Analysis. [12]

6. Explain:
   a) OSHA b) EPA. [12]

7. a) Write the equations for LFL_{Mix} & UFL_{Mix}.
   b) What are the LFL and UFL of a gas mixture composed of 0.8% hexane, 2.0% methane, and 0.5% ethylene by volume? [12]

8. Explain the static electricity with any case study in process industry. [12]

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