Seat No.:	Enrolment No.

Subject Code: 2723013

Time: 02:30 PM To 05:00 PM

Subject Name: Process Safety Management

GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER-II • EXAMINATION - SUMMER - 2017

Date: 30/05/2017

Total Marks: 70

Instructions: 1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks. 07 0.1 (a) Give the step wise method of performing HAZOP. Write short note on risk analysis and risk acceptance criteria. 07 Enlist any six elements of Process Safety Management and briefly explain any **07 Q.2** (a) two of them. 07 Write short note on risk management and mitigation. **(b)** (b) Explain what if checklist method and Failure mode effect analysis methods for **07** hazard analysis. What is toxicology? What are the essential elements of any toxicology study? **07 Q.3** (a) What are the three phases involved in any industrial hygiene project? Explain 07 each briefly. OR explain: streaming current, Inerting, Flammablity diagram. Q.3 (a) **07** Define: a) Risk b) Safety c) Hazard. What are the essential features of any 07 **(b)** safety program? Derive an expression for estimating worker exposure to the toxic vapours. 0.4 (a) 07 Explain in brief fault tree and event tree analysis for risk assessment. 07 Explain Safety rules & regulations for transportation, storage and handling of 0.4 (a) 07 hazardous materials Explain different types of charge accumulation and charge discharge. **07 (b) Q.5** What is interlock/Tripping system. Explain different types of interlock system. 07 Give one example with proper diagram. (b) List different dispersion models and explain any one in detail. **07** OR What is Ventilation? Explain positive ventilation and negative ventilation with **Q.5 07** (a) diagram. 07 **(b)** Explain safe operating procedures in Industries.
