**Karunya University**

**(Karunya Institute of Technology and Sciences)**

(Declared as Deemed to be University under Sec.3 of the UGC Act, 1956)

**Supplementary Examinations – June 2016**

**Subject Title: Instrumentation And Control In Petrochemical Industries Time : 3 hours**

**Subject Code: 14EI2020 Maximum Marks: 100**

**Answer ALL questions (5 x 20 = 100 Marks)**

1. Elaborate the different schemes of Pressure control in distillation column.

**(OR)**

2. a. Explain the working of the various control strategies involved in the Reboiler. (15)

b. Describe about the column feed temperature control in detail. (5)

3. a. Discuss about the cascade temperature control in chemical reactors. (15)

b. Describe the pressure control in the chemical reactor by throttling the flow of vent gas. (5)

**(OR)**

4. Illustrate the working of various continuous Dryers with neat diagrams.

5. a. Explain about the various Instrumentation and controls involved in condenser. (15)

b. Write short notes on the variables of Heat Exchanger and determine its Degrees of freedom. (5)

**(OR)**

6. Elaborate the different types of control implicated in Liquid-to-Liquid Heat exchanger.

7. Elucidate the different types of evaporators in detail with necessary diagrams.

**(OR)**

8. a. Explain about the implementation of feedback control scheme in evaporators. (10) b. Demonstrate the measurement and control of absolute pressure in an evaporator. (10)

9. a. Classify the various types of water treatments employed to the influent. (2)

b. Exemplify the concept of chemical oxidation in the waste water treatment with relevant chemical equations. (18)