

MODEL QUESTION PAPER

Eighth Semester

Instrumentation And Control Engineering

IC010 803 INSTRUMENTATION & CONTROL IN PETRO CHEMICAL INDUSTRIES

Time: 3 Hours

Maximum : 100 Marks

PART A

Answer **all** questions

Each question carries **3** marks

- 1.Explain about different physical & chemical characteristics of crude oil.
- 2.What are the different variables controls in chemical reactors, How many degrees of freedoms are there?
- 3.What are the main differences between batch dryers & continuous reactors.
- 4.What is meant by surge control in pumps?
- 5.explain about steam enthalpy in evaporators. (3*5=25marks)

PART B

Answer **all** questions

Each question carries **5**marks

- 1.Explain about different remote sensing techniques in petroleum exploration.
- 2.which are the main PH control methods in a chemical reactors
- 3.Differentiate liquid to liquid heat exchangers, steam heaters, condensers.
- 4.Explain different throttling controls in centrifugal & rotary pumps.
- 5 .explain different methods for measurement & control of absolute pressure & conductivity in evaporators. (5*5=25marks)

PART C

Answer **all** questions

Each question carries **12** marks

Module 1

1. Which are the different depositional systems of petroleum, what are the factors governing hydrocarbon potential.

OR

2. Explain about different basins exploration techniques in petroleum industries.

Module 2

1. Explain about reflex & reboiler controls in reactors.

OR

2. Explain use of chromatography in reactors

Module 3

1. Give detail explanation of any two batch dryers, continuous dryers.

OR

2. Give an idea about cascade control & feed forward control in dryers

Module 4

1. What are the main controls in reciprocator pumps?

OR

2. What are the different methods for effluent & water treatment.

Module 5

1. Explain steady-state model in evaporators.

OR

2. What are the different methods of product density measurement, & its uses. (12*5=60marks)