Printed pages: 01 **Sub Code: MTAR042**

Paper Id | 2 | 7 | 5 | 2 | 0 | 6 | **Roll No.** | | | | | | | | | | |

M. TECH.
(SEM-II) THEORY EXAMINATION 2018-19
PROCESS CONTROL & AUTOMATION

Time: 3 Hours ***Total Marks: 70***

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. 2 x 7 = 14

a. What is tuning?
b. What is Simulation?
c. Write the Cascade control.
d. What is Selective control loops.
e. What is automation?
f. What is Process Interactions?
g. What is use of software in control?

SECTION B

2. Attempt any *three* of the following: 7 x 3 = 21

a. Explain the Simulation using software with example.
b. What are strategies for reducing control loop interactions?
c. Explain the wide control & monitoring.
d. Explain the Batch Process control system.
e. Explain the Instrumentation for process monitoring.

SECTION C

3. Attempt any *one* part of the following: 7 x 1 = 7

(a) Explain the Development of empirical models from process data.
(b) Explain the Feedback &Feed forward Control.

4. Attempt any *one* part of the following: 7 x 1 = 7

(a) Explain the Preparation of P& I Diagrams.
(b) Write the environmental issues and sustainable development relating to process industries.

5. Attempt any *one* part of the following: 7 x 1 = 7

(a) Explain the Fuzzy Logic in Process Control.
(b) What is Real-time optimization explaining with the example.

6. Attempt any *one* part of the following: 7 x 1 = 7

(a) Explain the Model predictive control.
(b) What is Frequency Response Analysis in Control system?

7. Attempt any *one* part of the following: 7 x 1 = 7

(a) Write the Comparison of performance different types of control with examples on software's.
(b) Differentiate between State space models and Time series models.

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