Roll No. | | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(EE) (2012 Onwards E-II) (Sem.–7,8)

INDUSTRIAL PROCESS CONTROL

Subject Code : BTEE-804D

M.Code : 71939

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. Answer briefly :

a. Discuss the significance of industrial process control.

b. What is a Mathematical model? Discuss its significance.

c. List the different steps involved in simulation studies.

d. What is blending process? Explain.

e. Differentiate continuous and discrete systems.

f. Why ratio control is used in process control industries? Explain.

g. Discuss the disadvantages of conventional controllers.

h. List the advantages of PLC.

i. What do you mean by self-tuning controllers? Explain.

j. What do you mean by reactor control? Explain.

SECTION-B

2. Explain the following :

   a. Model classification

   b. System identification

3. What is a process control? Give the description of different processes.

4. Discuss the need of intelligent controllers. Explain the fuzzy logic based control system in detail.

5. What is ratio control, and why is it useful in process control? Give at least two specific examples.

6. Explain the smart and intelligent transmitters in detail.

SECTION-C

7. With the help of suitable examples explain cascade and feed-forward controllers in detail.

8. Write the notes on :

   a. Boiler controls

   b. Distillation Control

9. Discuss the following :

   a. Artificial intelligence and neural networks

   b. Distributed control system

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.