M. Tech. –IV (Chemical Engineering) (CBCS – 2015 Course) :
SUMMER - 2019
SUBJECT : SELF STUDY PAPER – II : MODELLING & SIMULATION OF PROCESSES

Day : Thursday
Date : 13/06/2019

S-2019-3584

Time : 11.00 AM TO 02.00 PM
Max. Marks : 60

N.B.

1) All questions are **COMPULSORY.**
2) Figures to the right indicate **FULL** marks.
3) Answer to both the sections should be written in **SAME** Answer book.
4) Use of non-programmable calculator is allowed.
5) Assume suitable data if necessary.

SECTION – I

Q.1 Write a role of control engineer in model and simulation of large companies. **(10)**

OR

Compare open loop and closed loop control system with suitable examples from chemical processing.

Q.2 Describe with neat diagram, mathematical model of binary distillation column. **(10)**

OR

Write a note on simulation tools used for chemical processes.

Q.3 Write a note on stability analysis. **(10)**

OR

Which are different methods of frequency response analysis and give the comparison between these methods?

SECTION – II

Q.4 Elaborate the role of Fourier transformation in process intensification and explain digital evaluation of Fourier transformation. **(10)**

OR

Write notes on:

a) Direct sine wave testing
b) Auto tunning

Q.5 What is ANN? Explain the utility of various transfer functions in ANN. **(10)**

OR

With the help of neat diagram explain network architecture of feed forward neural network.

Q.6 What is simulation? Explain the role of computer simulation in various industrial applications. **(10)**

OR

Write algorithm for the simulation of ideal binary distillation column.

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