2209T162

B. Voc Robotics and Automation
Subject: Automatic Control System
Subject Code: EE-601
Semester: Third
Session: September 2022
Theory (External): 35 Marks
Time: 03 Hours

Instructions to the Students

1. This Question paper consists of two Sections. All sections are compulsory.
2. Section A comprises 10 questions of short answers type in nature. All questions are compulsory. Each question carries 1 mark.
3. Section B comprises 8 essay type questions out of which students need to do any 5. Each question carries 5 marks.
4. Read the questions carefully and write the answers in the answer sheets provided.
5. Do not write anything in the question paper.
6. Whenever necessary, the diagram drawn should be neat and properly labelled

Roll Number

SECTION – A (OBJECTIVE TYPE QUESTIONS)
(10x1 = 10 Marks)

A. Discuss Root contours
B. Define the function of feed back
C. Define non minimum phase system
D. Define frequency
E. Define constants
F. Define standard test signals
G. Define stability
H. Define the function of signal flow graph
I. Discuss non linear systems
J. Discuss canonical variables

SECTION -B (LONG ANSWER TYPE QUESTIONS)
(5x5 =25 Marks)

1. Differentiate between open loop and control loop system with suitable diagram .
2. Describe the transfer function of DC generator with suitable example
3. Differentiate between speed mode and torque mode with example
4. Discuss the reduction techniques with suitable example

5. Describe time response of second order system with suitable diagram
6. Describe state model for linear time invariant systems with neat and clean diagram
7. Describe root locus concept with suitable example
8. Differentiate between polar plot and Bode plot with suitable example

END OF PAPER