Course Handout (Part II)

Dated: 03/08/2015

In addition to part-I (General Handout for all courses appended to the time table) this portion gives further specific details regarding the course.

Course No. : EEE/INSTR F245
Course Title : Control System Laboratory
Instructor-in-charge : HARI OM BANSAL
Instructor : Tulsi Ram Sharma

1. Scope & Objective of the Course:

Feedback automatic control systems are an essential feature of numerous industrial processes, scientific instruments and even commercial, social and management situations. A thorough understanding and hands on exposure of the elementary principles of these is of great relevance to all engineers and scientists. This course tries to bring out the basic principles of Feedback Control Systems.

2. Text Book: 1. Nagrath I. J. and M. Gopal, Control Systems Engineering, New Age International (P) Ltd, 5th ed, 2007.
2. User Manual related to the experiment (will be made available in the lab)

3. L**ist of Experiments**

1.(A) To study the performance characteristics of a D.C. motor speed control system.
1.(B) Speed control of DC motor using driver IC L293
2. To study the characteristics of a small A.C. Servomotor and determine its transfer function.
3(A) To study the performance of various types of controllers used to control the temperature of an oven.
3(B) See the behavior of temperature sensor AD 590 and write your one set of reading and give your comments
4. To study the characteristics of a Synchro Transmitter Receiver pair and use these as torque-synchro and angular error detector.
5. To study the response sof PID Controller in a process
6. To study the performance characteristics of a DC Motor angular position control system
7. To study the performance characteristics of an analog PID Controller using simulated system

4. Home assignment bases on control system using MATLAB/Kit based

5. Evaluation Scheme:

S No.	Evaluation Component	Duration	Marks (100)	Weightage	Date & Time	Nature of Component
1.	Regular Lab	100 min	40	40%		Open Book
2.	Assignemnt		20	20%		Open Book
3.	Comprehensive Lab Exam	1 Hr	40	40%	30/11 FN	Closed Book

6. **Course Notices**: All notices of this course will be displayed on the **ITECH Lab (Room No.2139) notice board only**
7. **Make–up Examination:** make-up will be given **ONLY** in extremely genuine cases.

Instructor-in-Charge
EEE/INSTR F245; Control System Lab