

Question 2

Feedback Control System :

A system in which the value of some output quantity is controlled by feeding back the value of the controlled quantity and using it to manipulate an input quantity so as to bring the value of the controlled quantity closer to a desired value. It is also known as closed-loop control system.

CITE [McGraw-Hill Dictionary of Scientific and Technical Terms, 6E, Copyright © 2003 by The McGraw-Hill Companies, Inc]

Example of Closed [Feedback] Control System :

→ Automatic Electric Iron

Underlying Process : Heating elements are controlled by output temperature of the iron.

Sensor : Temperature - sensing resistor

Actuator : Heating resistor

Controller : Manually resettable thermostatic cut-off switch.

CITE [Control System by Abhishek Kumar, November 17, 2017]

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COURSE TITLE: Biomedical System Controls and Modeling

Answers to most recent assignment due on 17/04/2020

Question 1

Parameters

Desired Output Response: Reduced effect of surgeons muscle tremor

Actual Output: Carefully controlled hand

Controller: Surgeon

Actuator: Microsurgical Device

Sensor: Surface electrode for muscle tremor

Process: Surgery

Feedback Control Loop

