

- Q.25 Write the concept of limit cycle
 Q.26 Write a short note on multi loop control system
 Q.27 Write any five application of robotics
 Q.28 Describe the concept of degree of freedom
 Q.29 Write five differences between open and closed loop control system
 Q.30 Explain any two non-linearities with diagram
 Q.31 Write a short note on computer applications in control system
 Q.32 Write five differences between feedback and feedforward control system
 Q.33 Explain the concept of Artificial Neural Network
 Q.34 Describe the principle of superposition and homogeneity
 Q.35 Explain single loop flow control system

SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 Define Fuzzy Logic. Draw and explain the block diagram of Fuzzy Logic.
 Q.37 Describe the concept of cascade control system. Also write two advantages of it.
 Q.38 Write eight differences between linear and nonlinear control system.

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4th Sem / IC

Subject:- Advanced Control System

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 Ratio control is extensively used in
 a) Distillation column b) Chemical processes
 c) Reactor d) All of these
- Q.2 In control system non-linearity caused by gear train is
 a) Backlash b) Coulomb friction
 c) Saturation d) Resolution
- Q.3 The human brain is made up of processing units known as
 a) Networks b) Locus
 c) Neurons d) None of these
- Q.4 The software used for PLC Programming is
 a) Rs Logix b) Root locus
 c) Bode plot d) Pascal

- Q.5 A controller essentially is a
a) Sensor b) Clipper
c) Amplifier d) Comparator
- Q.6 LabVIEW is commonly used for
a) data acquisition
b) industrial automation
c) control or monitoring a process
d) All of the above
- Q.7 Which term is not related to Neural Networks
a) robotics b) neurons
c) synapses d) dendrites
- Q.8 Multiloop control is well illustrated in
a) cascade control b) ratio control
c) Split range control d) All of these
- Q.9 There are two loops in a cascade control, one is called as inner loop other is known as
a) feedback loop b) feedforward loop
c) double loop d) outer loop
- Q.10 Fuzzy Set theory defines fuzzy operators. Choose the fuzzy operators from the following
a) AND b) OR
c) NOT d) All are Correct

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 Expand ANN
Q.12 Write two advantages of cascade control system
Q.13 Saturation relates to non linear control system (True/False)
Q.14 Game playing is an application of _____
Q.15 Define friction
Q.16 Write two applications of robotics
Q.17 Name two computational software
Q.18 Voice recognition is an example of _____
Q.19 Define dead zone
Q.20 Write two applications of Artificial Intelligence

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Explain ratio control system with the help of an example
Q.22 Explain the concept of inherent and intentional non linearity
Q.23 Explain briefly about the artificial intelligence.
Q.24 Briefly explain any one computational software