

- Q.26 Explain the concept of artificial intelligence.
- Q.27 Write five differences between open and closed loop control system.
- Q.28 Explain any two types of non-linearities in control system.
- Q.29 Write a short note on Robotics.
- Q.30 Write a short note on computer applications in control system.
- Q.31 Describe the concept of linear control system.
- Q.32 Write five applications of artificial neural network.
- Q.33 Describe the concept of degree of freedom.
- Q.34 Write five differences between linear and nonlinear control system.
- Q.35 Describe the concept of Neuro Fuzzy Logic Control System.

SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 Write eight differences between feedback and feedforward control system.
- Q.37 Describe the concept of cascade control system. Also write two advantages of it.
- Q.38 Explain the concept of Fuzzy Logic. Also write five application of Fuzzy Logic 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 The Load variable is also known as
a) Input variable b) output variable
c) Disturbance d) None of these
- Q.2 The final control element is called a
a) Sensor b) Controller
c) Actuator d) All are correct
- Q.3 Laplace transform of unit step input $u(t) > 0$ is
a) $1/s$ b) 1
c) $1/S^2$ d) All are correct
- Q.4 In cascade control system which loop is fast
a) Outer-loop b) Inner-loop
c) both a& b d) None of these
- Q.5 Neural networks are complex _____ with many parameters
a) Linear functions b) Nonlinear function
c) Discrete functions d) Exponential functions

- Q6 AI stands for
- Artificial intelligence
 - Air craft intelligence
 - Artificial internet
 - Air craft internet
- Q.7 Which of the following is not a part of Fuzzy Logic system architecture
- Fuzzification module
 - Knowledge base
 - De-fuzzification module
 - Amplifier
- Q8 Feedback control system measure the
- Manipulated variable
 - Control variable
 - Load variable
 - All of these
- Q.9 Smallest change of input is known as
- resolution
 - Sensitivity
 - Precision
 - None of these
- Q.10 Lab-view software is design by
- National instrument
 - general electric
 - Infosys
 - None of these

SECTION-B

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

- Q.11 SCADA stands for
- Q.12 In cascade control system number of loop is _____
- Q.13 PLC stands for
- Q.14 Manipulated Variable is also known as
- Q.15 What is Back-lash
- Q.16 What is non-linearity
- Q.17 Backlash relates to linear system (True/False)
- Q.18 Write two applications of Robotics.
- Q.19 Define saturation.
- Q.20 Expand AI.

SECTION-C

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

- Q.21 Describe the principle of superposition and homogeneity.
- Q.22 Describe ratio control system with the help of an application.
- Q.23 Write a short note on SCADA software.
- Q.24 Explain classification of non-linearity.
- Q.25 Write five differences between open and closed loop control system.