

APGENCO previous years question paper with answers

1. Electronic control systems have the serious draw-backs of

- (a) low reliability
- (b) operational difficulty
- (c) temperature sensitiveness
- (d) all of above

2. The system whose characteristic equation has the following roots is marginally stable

- (a) $-j, j, -1, 1$
- (b) $-3, -2, 0$
- (c) $-2+3j, -2-3j, -2$
- (d) $-3, -2, -1$

3. A phase lag compensation will.

- (a) improve relative stability.
- (b) increase the speed of response.
- (c) increase band-width.
- (d) increase overshoot

4. For Nyquist plot we use.

- a. open loop function.
- b. closed loop function.

c. characteristic equation.

d. any of the above

5. A system with gain margin close to unity or a phase margin close to zero is .

a. highly stable.

b. oscillatory.

c. relatively stable.

d. none of these

6. Root locus diagram exhibits the .

a. frequency response of a system.

b. poles of the transfer function for a set of parameter values.

c. bandwidth of system.

d. all of the above

7. Increase in the gain K makes the system .

a. more stable.

b. unstable.

c. none of above

8. The transfer function of a system is used to determine .

a. the output for a given input.

b. the type of system.

c. the input for a given output.

d. the steady state gain

9. In a servo system the voltage induced in the control transformer rotor is the .

a. error voltage.

- b. driving voltage.
- c. opposing voltage.
- d. none of these

10. With the feedback system, the transient response .

- a. decays slowly.
- b. decays rapidly.
- c. rises slowly.
- d. rises quickly

APGENCO Electrical Circuits and Networks

1. The ratio of voltage and electric current in a closed circuit

- (a) remains constant
- (b) varies
- (c) increases
- (d) falls

2. The resistance of a wire varies inversely as

- (a) area of cross section
- (b) length
- (c) resistivity
- (d) temperature

3. The electrical conductivity of metals is typically of the order of (in ohm⁻¹ m⁻¹)

4. (a) 10 to the power of 7 (b) 10 to the power of 5 (c) 10 to the power of -4 (d) 10 to the power of -6

5. Four resistors, each of resistance R ohms are available. The minimum resistance of the combination will be

(a) $4R$ (b) R (c) $R/4$ (d) $R/8$

6. The elements which are not capable of delivering energy by its own are known as

(a) unilateral elements

(b) non-linear elements

(c) passive elements

(d) active elements

7. The magnetic susceptibility of paramagnetic material is

(a) less than zero

(b) less than one but positive

(c) greater than one

(d) equal to zero

8. The Direction of current in an ac circuit

(a) is from positive to negative

(b) is always in one direction

(c) varies from instant to instant

(d) Cannot be determined

9. which of the following statements associated with purely resistive circuits is correct?

(a) PF is unity

(b) Power consumed is zero

(c) Heat produced is zero

(d) PF is zero

10. The magnetic field energy in an inductor changes from maximum value to minimum value in in 5m sec when connected to an ac source. The frequency of the source is

(a) 20 Hz

(b) 50 Hz

(c) 200 Hz

(d) 500 Hz

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