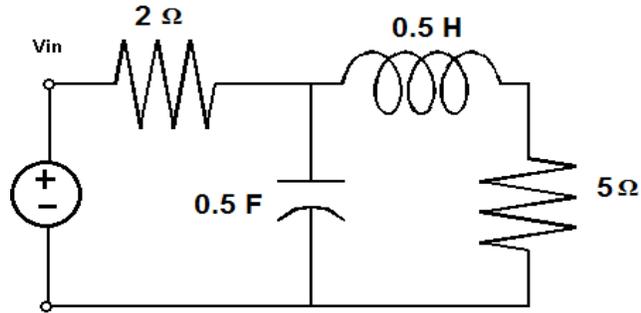


iii) Check for controllability by Kalman's method

(4)



22. a) What are singular points? Explain the different types of singular points with neat diagrams.

(OR)

b) Brief about phase plane analysis and phase trajectories. Give the procedure for construction of phase trajectory by Isocline Method.

23. a) Derive the describing function for Saturation non-linearity.

(OR)

b) Describe the conditions for stability and write about stability of oscillations

24. a) With neat diagrams explain Kalman's and Aizerman's conjecture.

(OR)

b) Write about Popov's and Circle criterion

25. a) Describe Model Predictive control in detail.

(OR)

b) Explain State feedback and state observer in detail.
