Network Signals & System
Quiz 2
Spring 2023

Read questions carefully.
Write your Roll Number neatly on top right of your each answer sheet. Put page numbers.
State clearly any assumptions (if you are making one) and its reason in the answer.
Plagiarism/cheating, **use of electronic devices and/or communication apps/devices is prohibited.** You can use only Moodle announcements for communication during the exam hour.

- Answer to the point.
- You have 50 minutes to complete the exam.
- List any assumptions clearly.
- Show all your work

1. In the figure 1 given below, I_L is a load current (current drawn by the load). What will be the value of load current I_L for which power absorbed by load is maximum. [20] Find Power too.

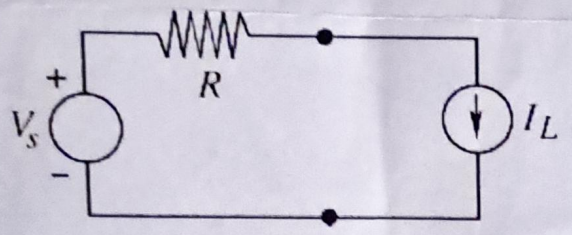

Figure 1

2. For (Figure 2)

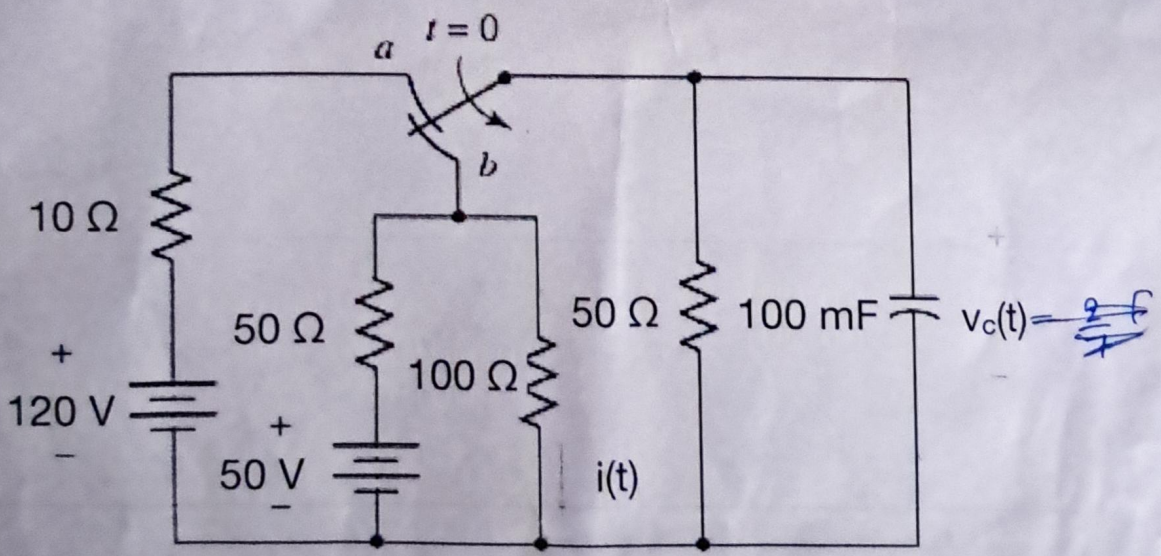

Figure 2

2. For figure 2, find the
(a) time constant of the circuit given; [10]
(b) find i(t) (current through 100 Ω); Identify the natural & forced response. [25]

3. For circuit in figure 3,
Find α (alpha) [5], ω_0 [5], I(t) [25]

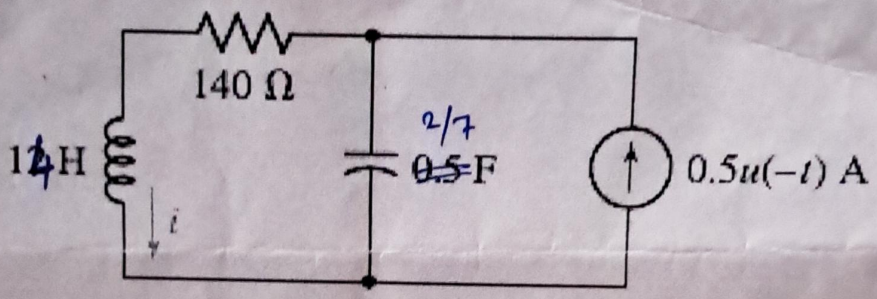

Figure 3