

LAHORE UNIVERSITY OF MANAGEMENT SCIENCES
Department of Electrical Engineering

EE240 Circuits I
Quiz 01 - Section 2

Name: _____

Campus ID: _____

Total Marks: 10

Time Duration: 15 minutes

Question 1 (10 marks)

- (a) [7 marks] The voltage $v_c(t)$ across the capacitor of capacitance $\frac{1}{4}F$ is shown in Figure 1 below. Determine the current through the capacitor. Also plot the current for $0 \leq t \leq 5$.

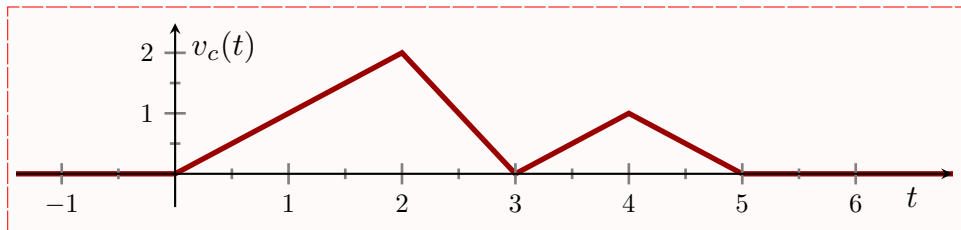


Figure 1: Current through the Capacitor.

- (b) [3 marks] Consider a circuit consists of a 12V voltage source connected in series with a light bulb. If the battery supplies a current of 1.5 A for 2 minutes to the bulb, calculate the energy dissipated by the bulb.