BOĞAZİÇİ UNIVERSITY

Physics Department

PHYL201 Applied Exam-2: INTEGRATING CIRCUIT

TOTAL SCORE
/ 6

Fall '26 **Duration: 30 minutes**

Name & Surname: _____ **Student ID:** _____

Lab Section: _____ **Table #:** _____ **Date:** _____

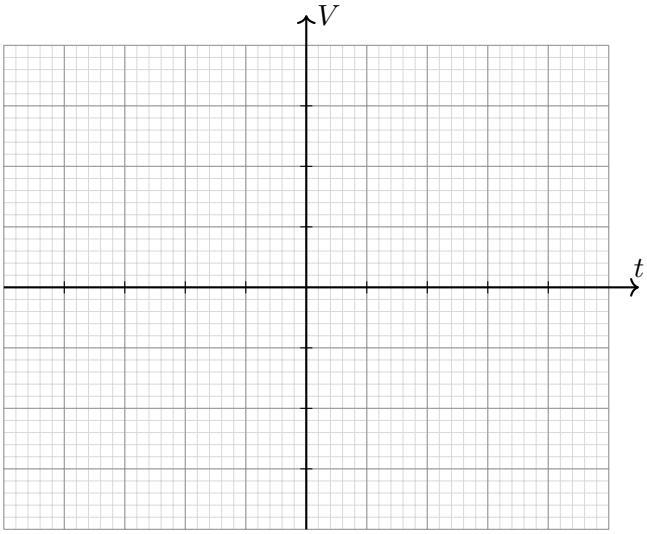
ATTENTION: Graded **STRICTLY** based on drawings and boxes below. Correct answers without valid Extra Sheet calculations get **NO** credit. Include correct sf and units!

SETUP: Set SWG to $f_{SWG} = 20$ kHz square wave. **Note plate numbers or NO CREDITS!**

Cap. Plate #: _____ **Res. Plate #:** _____

PART 1) Applied Square Waveform

Draw the applied wave patern. Adjust scale knobs so at least 1 full wavelength fits, but <2. Waveform must occupy >1/4 of the grid on both axes. ***Shade the area to be used to calculate the integral in Part 2. (1 p).*** *Show the zero arrow of CH1. Record your readings in the boxes.*



(0.3 p) [VOLT/DIV] =

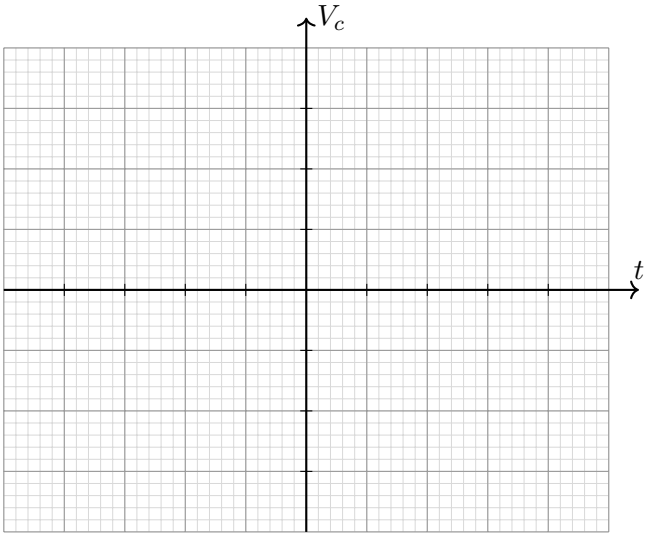
(0.3 p) [TIME/DIV] =

(0.2 p) frequency (f) =

(0.5 p) V_{app} **=**

PART 2) Capacitor Voltage Waveform

Draw the capacitor voltage waveform ***(1 p).*** *The horizontal scale and position* ***SHALL BE THE SAME*** *as Part 1. Waveform must occupy >1/4 of the grid on both axes. Show the zero arrow of CH1. Calculate values on the Extra Sheet.*



(0.3 p) [VOLT/DIV] =

(0.3 p) [TIME/DIV] =

(0.2 p) frequency (f) =

(0.5 p) V_c **=**

(0.5 p) $\int V_{app}\, dt$ **=**

(0.5 p) RC **=**

(0.4 p) $t_{1/2}$ **=**

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EXTRA CALCULATION SHEET (1/2)

Name & Surname: _____ **Student ID:** _____

Lab Section: _____ **Table #:** _____ **Date:** _____

NOTE:

This sheet is provided for your calculations to support your final answers.

Your final answers MUST be written in the designated boxes on the first page.

If a final answer is correct, this sheet will be checked. NO points will be awarded for correct answers lacking valid supporting calculations.

You MUST submit this calculation sheet together with your exam paper.

Calculation Space:

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EXTRA CALCULATION SHEET (2/2)

Name & Surname: _____ **Student ID:** _____

Lab Section: _____ **Table #:** _____ **Date:** _____

Calculation Space (Continued):