KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
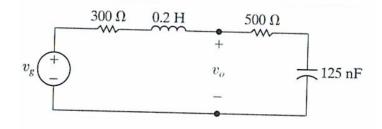## ELECTRICAL ENGINEERING DEPARTMENT
EE-201 ELECTRIC CIRCUITS
Dr. Ibrahim O. Habiballah

Sec: 8   Quiz # 7   Ser. #   Name: I.D.#

Find $v_o(t)$ by voltage divider; $v_g(t) = 100 \cos 8000t$ V.

Solution

$$\mathbf{V}_o = \mathbf{V}_g \frac{Z_o}{Z_T} = \frac{500 - j1000}{300 + j1600 + 500 - j1000}(100\underline{/0°}) = 111.8\underline{/-100.3°} \text{ V}$$

$$v_o = 111.8 \cos(8000t - 100.3°) \text{ V}$$