

COLLEGE OF ENGINEERING & TECHNOLOGY

Department: Electronics and Communications Engineering

Instructor: Dr. Amr Bayoumi

Course Title: Modern Electronics Circuits

Course No.: EC560 Assignment 2

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Bandwidth Estimation

Question 1 :

Derive equation 4 p. 147.

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Question 2 :

For example 7.2.5 p. 153, repeat the calculations after changing the transistor width (W) from 150 μm down to 100 μm .

Remember that all parameters such as C_{gs} , C_{gd} , C_{ox} , ..., as well as g_d and g_m , and bias current sources, depend on W, and must be scaled with width.

Use Miller Capacitance technique as explained in the lecture for C_{gd} .

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