



Arab Academy for Science & Technology
And Maritime Transport – Cairo Branch
College of Engineering & technology



Mechatronics department

EC534 – Analog and DSP

Sheet No. (4)

- **Analog Filters**

1. (Example 12.1) Find the Butterworth transfer function that meets the following low-pass filter specifications $f_p = 10$ kHz, $A_{\max} = 1$ dB, $f_s = 15$ kHz, $A_{\min} = 25$ dB, dc gain=1.

Hint: you may use one or more from the formulas in the last page.

2. (Example 12.2) Find the Chebyshev transfer function that meets the following low-pass filter specifications $f_p = 10$ kHz, $A_{\max} = 1$ dB, $f_s = 15$ kHz, $A_{\min} = 25$ dB, dc gain=1.

Hint: you may use one or more from the formulas in the last page.

- 3- Compare and comment on the results of (1) and (2).