



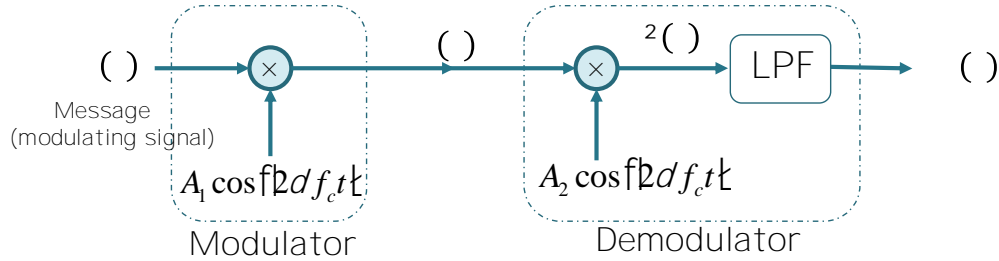
# ECS 332: In-Class Exercise # 7

## Instructions

1. Separate into groups of no more than three. ~~Persons cannot be the same as any of your former groups.~~
2. Write down all the steps that you have done to obtain your answers. You may not get full credit even when your answer is correct without showing how you get your answer.
3.
  - V k # Explanation is not required for this problem.
  - V k # Explanation is not required for this part.
4. Do not panic.

Date: __/__/2018			
Name			ID <small>(last 3 digits)</small>

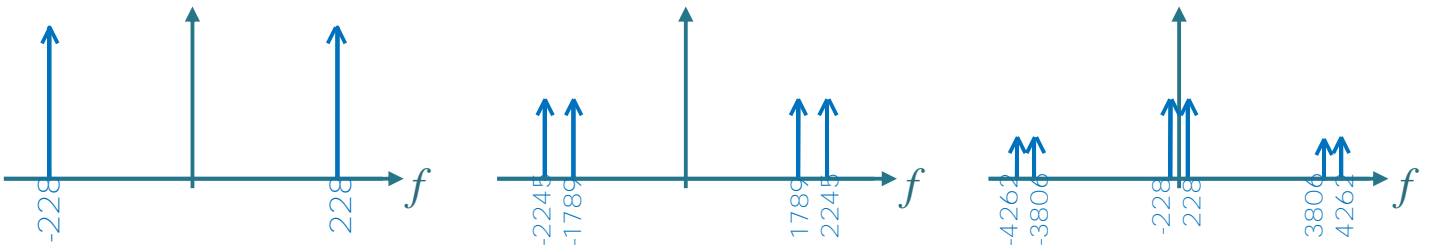
1. Consider the DSB modem with channel impairment shown below.



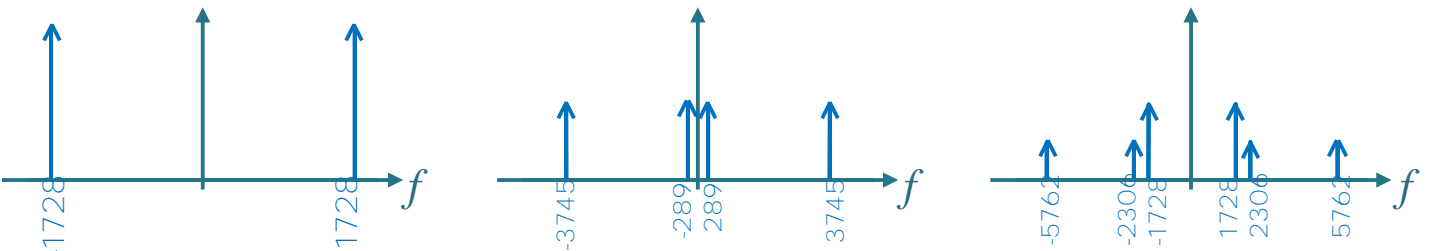
Let  $A_1 = 1$ ,  $A_2 = 1$ ,  $f_c = 2017$  Hz, and  $H_{LPF}(f) = \begin{cases} 1, & |f| \leq 77 \\ 0, & \text{otherwise.} \end{cases}$

For each of the following  $m(t)$ , find the corresponding  $y(t)$ .

(a)  $m(t) = 1 + 4 \cos(456t)$



(b)  $m(t) = 1 + 4 \cos(3456t)$



(c)  $m(t) = 1 + 4 \cos(6666t)$