

KING SAUD UNIVERSITY
COLLEGE OF ENGINEERING
Electrical Engineering department

EE 320 – Communication(1) Quiz(No.1)

Takehome Quiz

Let the input to the system shown in Figure (a) to be $v_i(t)$ such that

$$v_i(t) = A [1 + \cos (\omega_0 t) + \sin (\omega_0 t) + \cos (2 \omega_0 t)]$$

and the transfer function $H(f)$ is that shown in Figure (b).

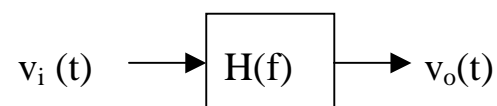


Figure (a)

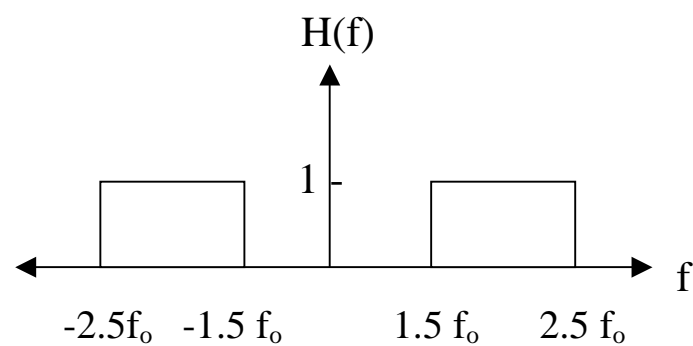


Figure (b)

- Find the spectral components (V_{in}) at the input and plot it.
- Find and plot $G_i(f)$ at the input
- Find the input average power (Normalized power) S_i .
- Repeat parts (a , b and c) at the output of the system (i, e, find V_{on} , $G_o(f)$ and S_o).
- Find the gain (power ratio) in dB.