

King Fahd University of Petroleum & Minerals
Electrical Engineering Department
EE573: Digital Communications II
In Class Work: Equalization

Name: _____

Binary PAM is used to transmit information over un-equalized linear filter channel. When $a=1$ is transmitted, the noise-free output of the modulator is x_m

$$x_m = \begin{cases} 0.15 & m = 1 \\ 0.9 & m = 0 \\ 0.15 & m = -1 \\ 0 & \text{otherwise} \end{cases} \quad c_m = \begin{cases} -0.1 & m = 1 \\ 1.2 & m = 0 \\ -0.1 & m = -1 \end{cases}$$

a linear equalizer was designed by Mr. XYZ with coefficients c_m . Mr. XYZ is consulting you to assess his equalizer.

- i. Evaluate the equalized system. What is your final recommendation?
- ii. For the un-equalized system, what is the sequence/s that will lead to the worst case interference, and what is its probability?