

(4) A frequency-modulated (FM) signal is given by

$$v(t) = \cos \left[\omega_c t + \sum_{i=1}^K B_i \cos(i\omega_m t + \theta_i) \right]$$

If $\theta_i = 0$ and $K=1$, the maximum frequency deviation is:

- a) $\beta_1 f_m$
- b) f_m
- c) $f_c + \beta_1 f_m$
- d) f_c

(5) ~~Answer~~ Correlation receiver is equivalent to the matched-filter receiver?

- a) True
- b) False
- c) Only when the signal is band-limited.
- d) Only when the noise is correlated.