Take Test: Test 2 (2018-19)

Test Information

Description	
Instructions	
Timed Test	This test has a time limit of 1 hour.This test will save and be submitted automatically when the time expires. Warnings appear when **half the time**, **5 minutes**, **1 minute**, and **30 seconds** remain.
Multiple Attempts	This Test allows 3 attempts. This is attempt number 1.
Force Completion	This Test can be saved and resumed at any point until time has expired. The timer will continue to run if you leave the test.
	This test does not allow backtracking. Changes to the answer after submission are prohibited.

⚠ Moving to the next question prevents changes to this answer.

Question **6** of **8**

Question 6

13 points Save Answer

Consider uniform linear antenna array system of 5 elements of halfwavelength spacing operating in the presence of one desired and two co-channel interfering signals all of power equal to $P_s = 0.9$. The power of the noise is equal to $\sigma_n^2 = 1$. If $\mathbb{R}_{xx}$ is the theoretical covariance matrix of the received signal vector $\underline{x}(t)$ then which of the following statements is correct?

(a) The rank of $\mathbb{R}_{xx}$ is equal to 2.
(b) The rank of $\mathbb{R}_{xx}$ is equal to 3.
(c) The minimum eigenvalue of $\mathbb{R}_{xx}$ is equal to P_s.
(d) The principal eigenvalue of $\mathbb{R}_{xx}$ is equal to 3.9.
(e) None of the above.

- a
- b
- c
- d
- e

⚠ Moving to the next question prevents changes to this answer.

Question **6** of **8**