**Quiz-3 – 24th Feb 2023 – Multivariate Gaussian Covariance**

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**eMasters in Communication Systems, IITK**

**EE902: Advanced ML Techniques for Wireless Technology**

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**Question:**

What is the mean and covariance matrix of multivariate Gaussian RV?

**Solution:**

Let’s consider is a multivariate Gaussian RV.

The mean/expected value of this GRV =

Covariance of

We know:

1. - Mean is constant and hence expected value of the mean vector is the mean vector itself
2. - Mean is constant hence expected value of the transpose of the mean vector is also the transpose of the mean vector

I recollect, now, that this was derived/addressed in one of prof.Aditya sir’s classes last quarter.

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