



# **PES UNIVERSITY, Bangalore**

(Established under Karnataka Act No. 16 of 2013)

## **Department of Computer Science & Engineering**

### **Statistics for Data Science**

#### **Assignment – Discrete Distributions (Bernoulli and Binomial)**

Q: When sending messages over a network, there is a chance that the bits will be corrupted. A Hamming code allows for a 4 bit code to be encoded as 7 bits, with the advantage that if 0 or 1 bit(s) are corrupted, then the message can be perfectly reconstructed. You are working on the Voyager space mission and the probability of any bit being lost in space is 0.1. How does reliability change when using a Hamming code? Imagine we use error correcting codes. Find the mean and standard deviation.