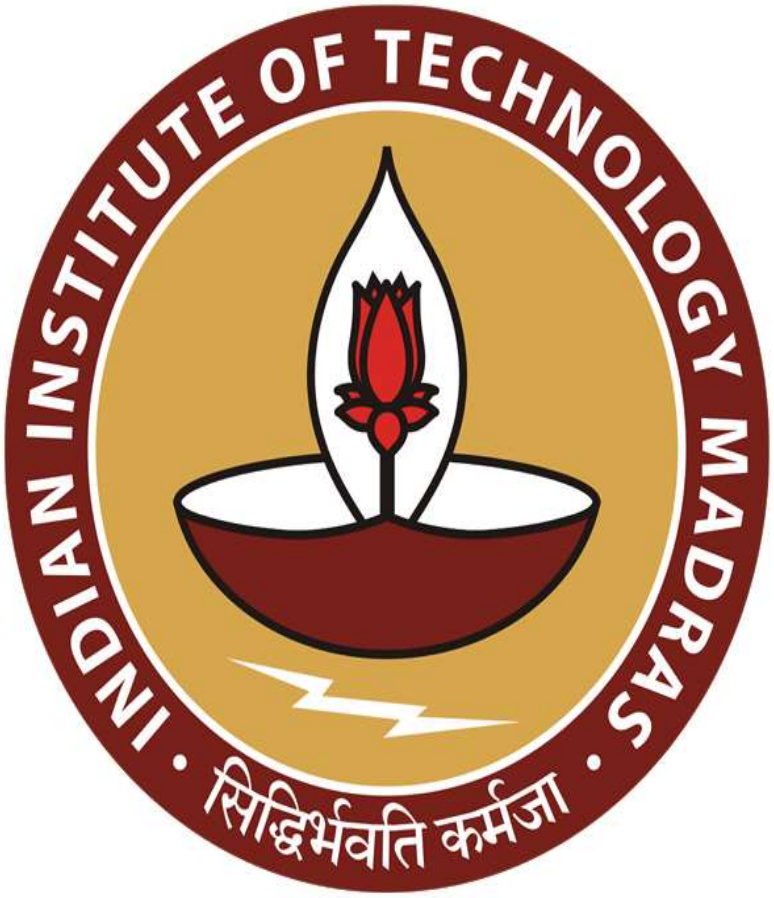

IIT Madras

ONLINE DEGREE

Statistics for Data Science – 1
Professor Usha Mohan
Department of Management Studies
Indian Institute of Technology, Madras
Week 6 - Tutorial 6

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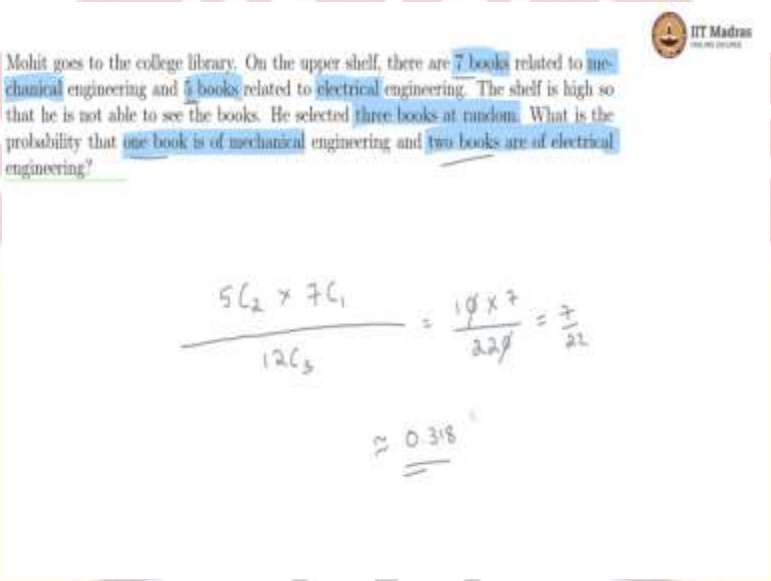

Mohit goes to the college library. On the upper shelf, there are 7 books related to mechanical engineering and five books related to electrical engineering. The shelf is high so he is not able to see the books. He selected three books at random. What is the probability that one is mechanical and the other two are electrical?

So, again we are overall the sample space is number of ways of picking three books out of twelve, so that will be $^{20}C_3$ and over here in the numerator we have $^{5}C_2$ which is two books from electrical, five books of electrical into $^{7}C_1$ which is one book of mechanical out of the 7. So, that gives us $\frac{10\times7}{220} = \frac{7}{22}$ which is roughly 0.318. So, this is the probability.