

THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY, PATIALA
Department of Electronics and Communication Engineering
UEC310 – Information and Communication Theory

TUTORIAL - 5

Q1	Let X be a discrete random variable with $P_X(k) = \frac{1}{5}$ for $k = -1, 0, 1, 2, 3$. Let $Y = 2 X $. Find the range and PMF of Y .
Q2	In the experiment of rolling a fair die, let the random variable X be the resulting number. Find mean and variance of this random variable.
Q3	For a random variable X and real numbers a and b , show that $\text{Var}(aX + b) = a^2 \text{Var}(X)$