IME625: Stochastic Processes

2021-22 Sem-II

Homework-18

Let $\{N(t): t \geq 0\}$ denote a Poisson process with rate λ. For $s < t$, determine (i) $P\big(N(t) > N(s)\big)$, (ii) $P(N(s) = 1, N(t) = 3)$, (iii) $E[N(t)|N(s) = 2]$, (iv) $E[N(s)|N(t) = 4]$, and (v) $Cov\big(N(s), N(t)\big)$.