
Name: Std. Number:

Quiz 4 (Dirichlet Process)

Questions

1. Stochastic process can be seen as an indexed collection of random variables. It can be considered as a collection of random variables $\{X_t\}_{t\in T}$ where T is the index set and for each t, X_t is a function from one measure space $(\Omega, \mathcal{F})$ to another measure space $(\Omega', \mathcal{F}')$. In this setting, how can we define Dirichlet Process? Define index set and domain and target measure spaces. (hint: see [1] and read about Kolmogorov extension theorem)

References

[1] Ferguson, Thomas S. "A Bayesian analysis of some nonparametric problems." The annals of statistics (1973): 209-230.