**Block 1**

1. Subjective probability
2. Subjective probability and Bayesian statistics
3. Illustrate the difference between an algebra and a sigma algebra and why is so important in Bayesian statistics

**Block 2**

1. Predictive distributions
2. What is the proportionality factor that is so important in computing posterior distributions and why it is often considered not important?
3. Normal-Normal case

**Block 3**

1. The main drawback of Jeffreys’ prior
2. Jeffreys’ prior for a Binomial distribution
3. Proposing indifference priors in Bayesian statistics
4. Discuss the role of the Fisher Information in Jeffreys’ prior
5. The simplest proposal of an indifference prior for a parameter that assumes only positive values
6. Describe the passage from the prior to the posterior for a Beta-Binomial case

**Block 4**

1. The second order level distributions in the Hierarchical Bayes model
2. The use of auxiliary variables in Hierarchical Bayes model
3. Illustrate the meaning and the role of the highest level of priors in Bayesian Hierarchical model

**Block 5**

1. Bayesian hypothesis testing for simple and null alternative hypothesis
2. Linear model (last page of the notes)→matter of formulas
3. Illustrate the Bayesian factor and its use
4. Talk about HPDR

9-Illustate the probability distribution that is used when probability of events is considered