Panipat Institute of Engineering & Technology
Department of CSE-AI&DS
LESSON PLAN

Subject: Bayesian Data Analysis **Subject code: BS-AIDS-202A**
Semester: 4th

SNo	Topic	CO Covered	Assignment No.	Teaching Methodology
1	The Bayesian Approach	CO1	Assignment-1	Smart board
2	Basic Prob. Bayes Law, Posterior Distribution			Smart board
3	Bayesian framework			Smart board
4	Steps of Bayesian Data analysis			Smart board
5	Statistical and Bayesian Inference			Smart board
6	Discrete Probability examples			Smart board
7	Bayesian inference in applied science and statistics			Smart board
8	Single and multivariate model			Smart board
9	Bayesian networks			Smart board
10	Second order and Infinite models			Smart board
11	Posterior Predictive check and graphical posterior check	CO2	Assignment-2	Smart board
12	Measures of predictive accuracy			Smart board
13	Information criteria and cross-validation			Smart board
14	Model compaision based on predictive performance, using bayes factors			Smart board
15	Bayesian decision theory			Smart board
16	Multistage decision making			Smart board
17	Hierarchical decision analysis for random measurement			Smart board
18	Personal vs. institutional decision analysis			Smart board
19	Introduction bayesian computation	CO3	Assignment-3	Smart board
20	Numerical integration, distributional approximation			Smart board
21	Markov chain simulation			Smart board
22	Metropolis –hastings algorithms			Smart board
23	Gibbs samoling			Smart board
24	Inference and assessing convergence			Smart board
25	Hamiltonian Monte Karlo			Smart board
26	Marginal posterior modes using EM			Smart board
27	Approximating conditional and marginal posterior densities			Smart board

28	Regression Models	CO4	Assignment-4	Smart board
29	Hierarchical linear models			Smart board
30	Stand generalized linear models			Smart board
31	Models for multivariate and multinomial responses			Smart board
32	Log linear models			Smart board
33	Parametric nonlinear models			Smart board
34	Guassian process models			Smart board
35	Dirichlet process models			Smart board