**Aditya Institute of Technology and Management (Autonomous), Tekkali**

**II Year B.Tech (Electronics and Communication Engineering) I- Sem.**

**II ECE-A 2017-18 SEM-II**

**RANDOM VARIBLE and Stochastic Processes**

**LESSON PLAN**

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| **Periods** | **Date**  **(Tentative)** | **Topic** | **Unit No** | **Teaching Methodology** | **Remarks** | **Corrective Action Upon Review** |
| 1 | 28-11-17 | Overview of the subject and its Applications in engineering. Set definitions. Probability introduced through sets and relative frequency, axioms, Experiments. | Unit -I | Black Board |  |  |
| 2 | 05-12-17 | Sample spaces, types, Events, Axioms of probability, Mathematical model of experiments | Black Board |  |  |
| 3 | 11-12-17 | Introduction to Joint and Conditional probability and independent events, Problems and solutions. | Black Board |  |  |
| 4 | 16-12-17 | Total probability theorem, Baye’s theorem introduction. | Black Board |  |  |
| 5 | 18-12-17 | Baye’s theorem derivation and problems. | Black Board |  |  |
| 6 | 23-12-17 | Problems and solutions | Black Board |  |  |
| 7 | 02-01-18 | Definition of random variable, Classification and properties of random variables , Conditions for function to be random variable | Unit -II | Black Board |  |  |
| 8 | 06-01-18 | Operations on one random variable, Moments about the origin. | Black Board |  |  |
| 9 | 09-01-18 | Operations on one random variable -Moments about the mean. | Black Board |  |  |
| 10 | 16-01-18 | .  Characteristic function and its importance in finding moments. | Black Board |  |  |
| 11 | 20-01-18 | Introduction to density and distribution function and its properties. Distribution and density functions of Gaussian | Black Board |  |  |
| 12 | 30-01-18 | Distribution & density functions of Uniform and binomial density functions. | Black Board |  |  |
| 13 | 03-02-18 | Problems & Solutions |  |  |  |
| 14 | 06-02-18 | Vector random variables, joint distribution function introduction, properties of joint distribution function. | Unit -III | Black Board |  |  |
| 15 | 13-02-18 | Concept of Marginal distribution functions, conditional distribution function. | Black Board |  |  |
| 16 | 17-02-18 | Concept of statistical independence, sum of two random variables. | Black Board |  |  |
| 17 | 20-02-18 | Expected value of a function of joint random variables, joint moments about the origin | Black Board |  |  |
| 18 | 24-02-18 | Joint central moments with problems | Black Board |  |  |
| 19 | 27-02-18 | Problems | Black Board |  |  |
| 20 | 02-03-18 | Problems & Solutions |  |  |  |
| 21 | 03-03-18 | Concept of random process, Classification of random processes, Deterministic and Non deterministic process | Unit-IV | Black Board |  |  |
| 22 | 05-03-18 | Concept of stationarity and statistical independence. | Black Board |  |  |
| 23 | 06-03-18 | First – order, second – order, wide – sense and strict – sense stationarity process. | Black Board |  |  |
| 24 | 07-03-18 | Concept of Time average and Ergodicity and mean – Ergodic Processes | Black Board |  |  |
| 25 | 09-03-18 | Autocorrelation and its properties | Black Board |  |  |
| 26 | 13-03-18 | Problems & Solutions |  |  |  |
| 27 | 15-03-18 | Introduction to power spectrum and its properties. | Unit- V | Black Board |  |  |
| 28 | 15-03-18 | Relation between power spectrum and autocorrelation function. | Black Board |  |  |
| 29 | 16-03-18 | Problems & Solutions | Black Board |  |  |
| 30 | 16-03-18 | Problems & Solutions | Black Board |  |  |
| 31 | 17-03-18 | Cross power density spectrum and its properties. | Black Board |  |  |
| 32 | 17-03-18 | Problems & Solutions | Black Board |  |  |

Signature of the faculty Signature of HOD/ECE