## PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY

## DEPARTMENT OF APPLIED SCIENCES AND HUMANITIES

## LESSON PLAN

Name:- Dr. Sanjeev Kumar Subject Name: Probability & Statistics

Branch/ Semester:- 2<sup>nd</sup> Sem. Subject Code:- BS-134A

| Description of Topic   | Lecture            |                      |                |                |
|--|--------------------|----------------------|----------------|----------------|
|  | Lectu<br>re<br>no. | Lecture<br>plan date | Methodology    | Target outcome |
| <b>UNIT 3:</b> Mean and related problems on various methods              | 1                  | 12/2/2024            | Lecture Method |                |
| Median, Mode, and related problems                                       | 2                  | 13/2/2024            | Lecture Method |                |
| Quartiles, Geometric mean, and related problems                          | 3                  | 14/2/2024            | Lecture Method |                |
| Harmonic mean, Range, and Quartile Deviation                             | 4                  | 15/2/2024            | Lecture Method |                |
| Mean Deviation and related problems                                      | 5                  | 16/2/2024            | Lecture Method |                |
| Standard Deviation and related problems                                  | 6                  | 19/2/2024            | Lecture Method | CO-1, CO-4     |
| coefficient of variation, Skewness, and Kurtosis                         | 7                  | 20/2/2024            | Lecture Method |                |
| Moments  | 8                  | 21/2/2024            | Lecture Method |                |
| Correlation, Coefficient of correlation                                  | 9                  | 22/2/2024            | Lecture Method |                |
| Correlation, Coefficient of correlation cont                             | 10                 | 23/2/2024            | Lecture Method |                |
| Correlation, Coefficient of correlation cont                             | 11                 | 26/2/2024            | Lecture Method |                |
| Lines of regression  | 12                 | 27/2/2024            | Lecture Method |                |
| Lines of regression Cont   | 13                 | 28/2/2024            | Lecture Method |                |
| Rank correlation.  | 14                 | 29/2/2024            | Lecture Method |                |
| Test of Unit 3   | 15                 | 24/2/2024            | Lecture Method |                |
| UNIT 1: Introduction   | 16                 | 1/3/2024             | Lecture Method | CO-1, CO-2     |
| Additive law of probability  | 17                 | 4/3/2024             | Lecture Method |                |
| Conditional Probability, Independent Events                              | 18                 | 5/3/2024             | Lecture Method |                |
| Bayes' Theorem   | 19                 | 6/3/2024             | Lecture Method |                |
| Problems related to the above topics                                     | 20                 | 7/3/2024             | Lecture Method |                |
| Discrete random variables, probability distribution                      | 21                 | 8/3/2024             | Lecture Method |                |
| Probability mass function and distribution function                      | 22                 | 11/3/2024            | Lecture Method |                |
| Expectation, Moments   | 23                 | 12/3/2024            | Lecture Method |                |
| The variance of discrete random variables                                | 24                 | 13/3/2024            | Lecture Method |                |
| The standard deviation of discrete random variables                      | 25                 | 14/3/2024            | Lecture Method |                |
| Test of Unit 1   | 26                 | 15/3/2024            | Lecture Method |                |
| <b>UNIT 2:</b> Continuous random variables, the probability distribution | 27                 | 18/3/2024            | Lecture Method | CO-1, CO-3     |

| Probability density function and distribution function  | 28 | 19/3/2024 | Lecture Method |             |
|---|----|-----------|----------------|-------------|
| Expectations and related problems   | 29 | 26/3/2024 | Lecture Method |             |
| Moments and related problems  | 30 | 27/3/2024 | Lecture Method |             |
| The variance of Continuous random variables & related problem   | 31 | 28/3/2024 | Lecture Method |             |
| The standard deviation of Continuous random variables & related problems                                  | 32 | 29/3/2024 | Lecture Method |             |
| Binomial Distribution, - evaluation of statistical parameters for the distributions, and related problems | 33 | 2/5/2024  | Lecture Method |             |
| Poisson Distribution, - evaluation of statistical parameters for the distributions, and related problems  | 34 | 3/5/2024  | Lecture Method |             |
| Normal Distribution, - evaluation of statistical parameters for the distributions.                        | 35 | 1/4/2024  | Lecture Method |             |
| Normal Distribution, - evaluation of statistical parameters for the distributions Contt                   | 36 | 2/4/2024  | Lecture Method |             |
| Normal Distribution, - problems   | 37 | 3/4/2024  | Lecture Method |             |
| Test of Unit 2  | 38 | 4/4/2024  | Lecture Method |             |
| <b>UNIT 4:</b> Curve fitting by the method of least squares: Fitting of a straight line                   | 39 | 4/4/2024  | Lecture Method |             |
| Fitting of a straight-line Cont   | 40 | 5/4/2024  | Lecture Method |             |
| Curve fitting by the method of least squares: Fitting of second and Higher degree                         | 41 | 8/4/2024  | Lecture Method |             |
| Fitting of second- and Higher-degree Cont   | 42 | 9/4/2024  | Lecture Method |             |
| Fitting of a geometric or power curve of the form $y = ax^b$  | 43 | 10/4/2024 | Lecture Method |             |
| Fitting of an exponential curve of the form $y = ab^x$  | 44 | 11/4/2024 | Lecture Method |             |
| Test of significance: Basic terminology   | 45 | 12/4/2024 | Lecture Method |             |
| Large sample test for single proportion difference of proportions   | 46 | 15/4/2024 | Lecture Method | CO-1, CO- 5 |
| Large sample test for single proportion difference of proportions Contt                                   | 47 | 16/4/2024 | Lecture Method |             |
| Test for single mean, the difference between means  | 48 | 17/4/2024 | Lecture Method |             |
| Test for difference between means   | 49 | 18/4/2024 | Lecture Method |             |
| Small samples test for a single mean, the difference in means   | 50 | 19/4/2024 | Lecture Method |             |
| Small samples test for a single mean, the difference in means   | 51 | 22/4/2024 | Lecture Method |             |
| Chi-square test for goodness of fit   | 52 | 23/4/2024 | Lecture Method |             |
| Test of Unit 4  | 53 | 24/4/2024 | Lecture Method |             |