



**BMS**

**INSTITUTE OF TECHNOLOGY AND MANAGEMENT**

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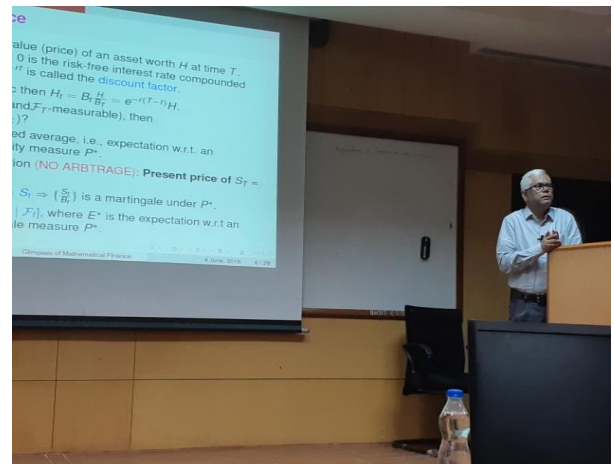
**DEPARTMENT OF MATHEMATICS**

**One week Faculty Development Program held on “Applications of probability and Statistics” from 4<sup>th</sup>-8<sup>th</sup> June 2018**

The One week Faculty Development Program “Applications of probability and Statistics” organized by the department of Mathematics was held during 4<sup>th</sup>-8<sup>th</sup> June 2018. The One week FDP had 62 registered participants belonging to various organizations inside and outside Karnataka. A number of faculty members and students attended the various sessions out of interest, by registering to the FDP.



The FDP started with the invocation song by Mr. Bibhu Ranjan from CSE-IV Semester. Mrs. Anitha Kiran hosted the FDP. Dr. Jojy Joseph Idicula, HOD, Department of Mathematics, BMSIT&M, proposed the welcome address during the inaugural function. Dr. Karabi Sikdar proposed the vote of thanks.



Dr. Mrinal Kanti Ghosh, Professor, Department of Mathematics, Indian Institute of Science, Bengaluru delivered keynote address on "Glimpses of Mathematical Finance" and some of its applications.

On the first day, Mr. Praveen Kumar continued in the afternoon session with the introduction to "Intellectual property Rights" briefing about product and process Patents.

On the Second day, Dr. S.Ravi, Professor, Department of studies in statistics, University of Mysore, delivered lectures on "Linear Models and Regression Analysis" during the FDP. Glimpses of topics covered are as follows:

Linear models describes a continuous response variable as a function of one or more predictor variables. They can help you understand and predict the behavior of complex systems or analyze experimental, financial, and biological data.

Linear regression is a statistical method used to create a linear model. The model describes the relationship between a dependent variable  $Y$  (also called the response) as a function of one or more independent variables  $X_i$ .



On the third day, Dr.B. S.Biradar, Associate Professor, Department of studies in statistics, University of Mysore, delivered lectures on Probability Distributions and Estimation during the FDP. Glimpses of topics covered are as follows:

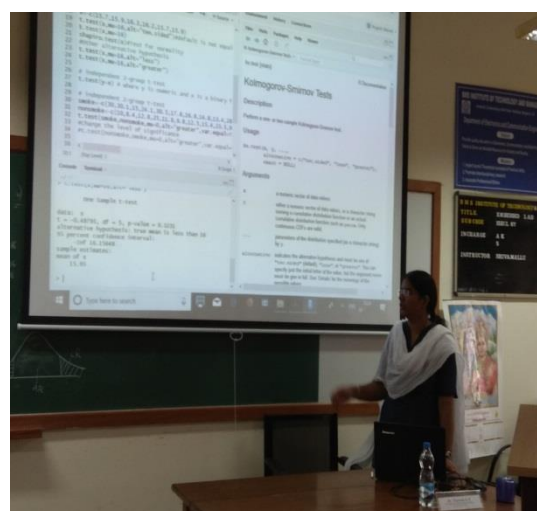
The probability distribution is a description of a random phenomenon in terms of the probabilities of events. For instance, if the random variable  $X$  is used to denote the outcome of a coin toss ("the experiment"), then the probability distribution of  $X$  would take the value 0.5 for  $X = \text{heads}$ , and 0.5 for  $X = \text{tails}$  (assuming the coin is fair). Examples of random phenomena can include the results of an experiment or survey.

Probability distributions are generally divided into two classes. A discrete probability distribution (applicable to the scenarios where the set of possible outcomes is discrete, such as a coin toss or a roll of dice) can be encoded by a discrete list of the probabilities of the outcomes, known as a probability mass function. On the other hand, a continuous probability distribution (applicable to the scenarios where the set of possible outcomes can take on values in a continuous range (e.g. real numbers), such as the temperature on a given day) is typically described by probability density functions (with the probability of any individual outcome actually being 0).

On the fourth and fifth day, Dr. Praveena, UGC Post Doctoral fellow, Department of studies in statistics, University of Mysore, delivered lectures on R-software with hands on session on both days during the FDP. R is a language and environment for statistical computing and graphics.

R is an integrated suite of software facilities for data manipulation, calculation and graphical display. It includes

- an effective data handling and storage facility,
- a suite of operators for calculations on arrays, in particular matrices,
- a large, coherent, integrated collection of intermediate tools for data analysis,
- graphical facilities for data analysis and display either on-screen or on hardcopy, and
- a well-developed, simple and effective programming language which includes conditionals, loops, user-defined recursive functions and input and output facilities.



All sessions were very informative and enjoyable. Using simple and interesting examples about the concepts of R- software was made understandable for all present by giving enough time for the participants. The presence of the resource person throughout the day enabled participants to interact and clarify their various queries in the subject and related areas.



The FDP concluded with a valedictory session during which participants gave their feedback and certificates were distributed. The participants in their feedback were highly appreciative about the sessions.