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## Kamla Nehru College of Pharmacy

Borkhedi (gate), Butibori, Nagpur-441 108 (M.S.)

# One Day Seminar on "Design of Experiments" organized by Kamla Nehru College of Pharmacy, Butibori, Nagpur

One day seminar on "Design of Experiments" organized by Kamla Nehru College of Pharmacy, Butibori, Nagpur on January 10<sup>th</sup>, 2015. The seminar was organized for teachers and PG students.

The seminar was inaugurated by Dr. Sudhir N. Umathe, Principal, Kamla Nehru College of Pharmacy, Butibori, Nagpur. The welcome address was delivered by Mr. Mangesh D. Godbole, Assistant Professor and preamble was given by Ms. Disha M. Dhabarde, Assistant Professor, Kamla Nehru College of Pharmacy, Nagpur.

The inaugural function was followed by two long sessions conducted Dr. Sunil V. Gupta, Research and Development Manager, Zim Laboratories Pvt. Ltd., Kalmeshwar, Nagpur.

In a two long sessions, Dr. Sunil V. Gupta focuses on following points:

- Design of experiments is a process to organize the experiments to answer the
  questions of interest clearly and efficiently. Sometimes also referred to as statistical
  design of experiments.
- Design of experiments can guide to produce highest quality product, help to get to market faster, give competitive advantages in business and help to increase return on investment.
- Design of experiments has been used in space, military, engineering, manufacturing, business operations such as biotechnology and chemistry. There are case studies of Hewlett-Packard, AT&T and GE demonstrating business success using Design of experiments. Literature reports indicate the trend of using Design of experiments for pharmaceutical applications.
- The evolution of Design of experiments can be traced back to study of one factor at a
  time and classical trial and error methods. In the existing environment Design of
  experiments typically involves four key steps: Planning to identify the variables,
  execution of screening experiments, replication of the experiments and proof of
  hypothesis based on statistical analysis.
- Design of experiments can be used under various circumstances such as screening to identify critical variables, to compare different experiments, to reduce variation and to establish process robustness.

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- Some workers are reluctant to use Design of experiments out of fear for mathematical equations but the user level experience of Design of experiments softwares and interpretation of results can help to circumvent this problem.
- Design of experiments gives maximum information with minimum experiments by considering all possible dependencies. However, there are some limitations to use of Design of experiments with respect to extrapolation of results to outside the range of individual variables.
- United States Food and Drug Administration has been encouraging the use of Process Analytical Technology for better understanding of the process through design space and gives waiver with respect to change control under Scale-Up and Post Approval Changes.

The seminar was anchored by Ms. Kavita R. Pandey, Assistant Professor, Kamla Nehru College of Pharmacy, Butibori, Nagpur and the vote of thanks proposed by Ms. Seema Wakodkar, Assistant Professor, Kamla Nehru College of Pharmacy, Butibori, Nagpur. There was an overwhelming response to attend the seminar and 60 delegates registered for the conference. Mrs. Suhasine G. Wanjari, President, Amar Sewa Mandla, Nagpur and Adv. Abhijit G. Wanjari, Secretary, Amar Sewa Mandal, Nagpur congratulated Dr. S. N. Umathe, the Convenor and Ms. Disha M. Dhabarde, the Organizing Secretary and all teaching and non-teaching staff for the grand success of the programme.

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