



Rajarshi Shahu College of Pharmacy, Botha Road, Malvihir, Buldhana- 443001

Department of Pharmacology

Organized

Certificate Course of Techniques Used in Preclinical Research

Day 1

|                               |  |
|-------------------------------|--|
| Title of activity             | : Certificate Course   |
| Topic                         | : Introduction of experimental pharmacology: An ethical issues in an animal experimentation  |
| Coordinator/s                 | : Mr. Devkar (2018-19)   |
| Convenor                      | : Dr. Shirish P. Jain  |
| Date                          | : 4 Feb 2019   |
| Time                          | : 11.00 AM to 04.00 PM   |
| Objective of program          | : Participated students were learned about the basics in experimental pharmacology.<br>Students also gained the knowledge regarding ethical requirement of animal house facility     |
| Expected outcome              | : The importance, scope of pharmacology along with Principles of 3R's in ethical requirement of animal house facility were learned by students in order to create ethics and values. |
| Funding agency                | : Self-Funded (Institute Level)  |
| No. of participants/delegates | : 25   |



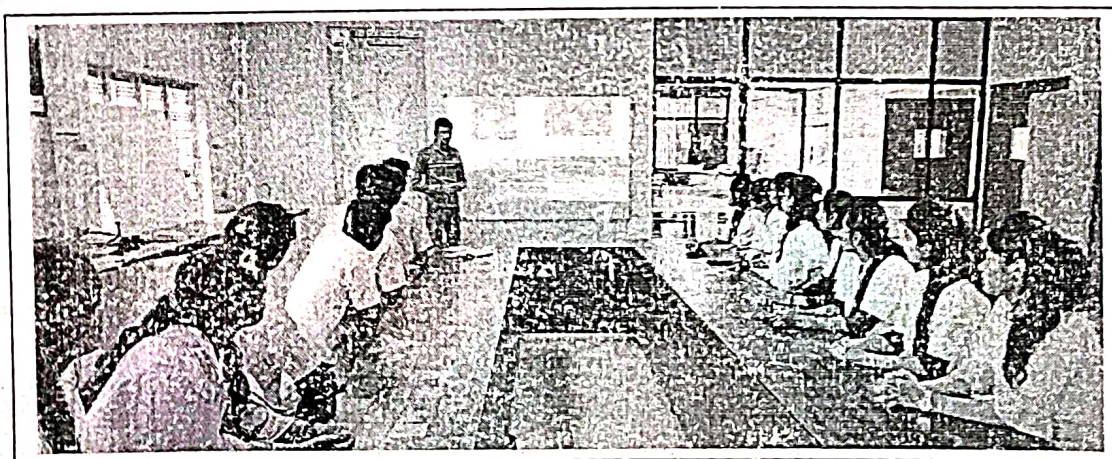
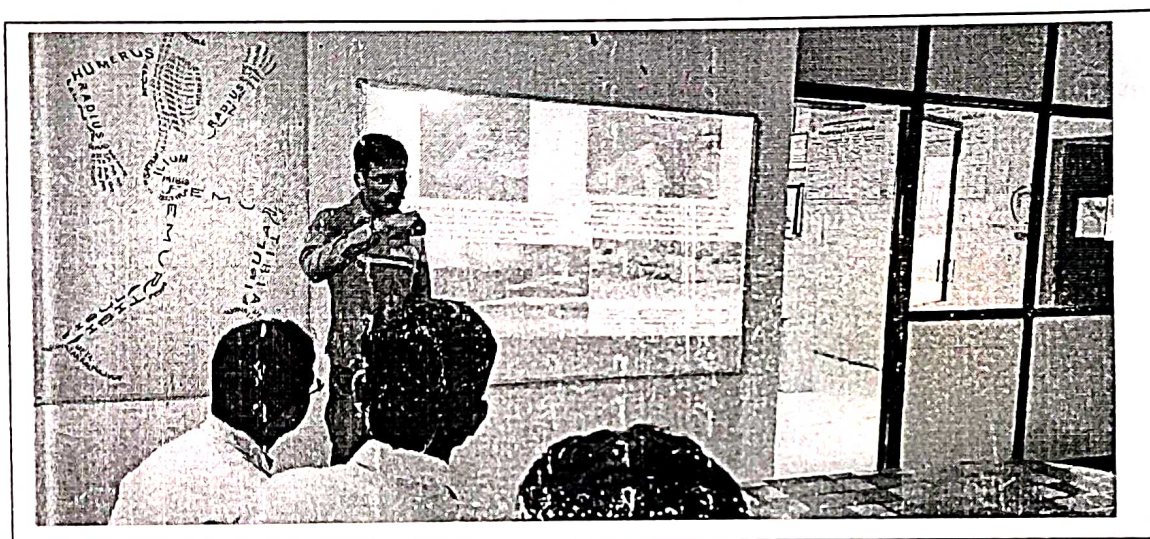
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### Day 1 Course Report

Rajarshi Shahu College of Pharmacy, Buldana organized 6 days certificate course of Techniques in Animal handling and drug screening method on 04 – 09 Feb 2019. The programme was inaugurated by Respected Dr. Shirish Jain Sir, Principal RSCP, Buldana. At the beginning the Dr. S. Jain explained the scope and objectives of the course to the participants. The objective of seminar includes training of participants regarding handling of experimental animals, various routes of drug administration, collection of various biological samples etc, ethical issues in an experimental animals, requirements of animal house facility as per CPCSEA guidelines along with importance of drug screening method in preclinical pharmacology for research and education purpose.

The first session of first day training course was Co-ordinated and conducted by Mr. Mangesh Deokar, faculty member from Department of Pharmacology, RSCP, Buldana. He started his session from the main objective of this course by providing the knowledge regarding basics of pharmacology to the participated students. Initially, he discussed that experimental animals should be respected through their humane care and handling. The students and faculty members of college should be familer with the ethical issues in animal experimentation was the purpose of session and programmer.

Sir, also shared and discussed the guidelines of Committee for the Purpose of Control and Supervision on Experimental Aniamls (CPCSEA) for the care and handling of experimental animals required for research and educational purpose along with provision of prevention of cruelty in animals by act.


Moreover sir also emphasized on the humane care of animals and appealed to reduce the number of animals used for experimentation purpose with the use of suitable alternatives.

At the end of the programme vote of thanks was proposed by Mr. S.S. Hurdade, Assistant professor, Department of Pharmacology, RSCP Buldana.

Date: 4 Feb 2019

  
Program Coordinator



  
Principal  
Rajarshi Shahu College of Pharmacy  
Malvihiir, Buldana.



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Day 2

|                               |   |
|-------------------------------|---|
| Title of activity             | : Certificate Course  |
| Topic                         | : Introduction of various animals used in pharmacology education & research: The updated scenario   |
| Coordinator/s                 | : Mr. Mangesh N. Deokar / Dr. Shitalkumar Zambad  |
| Convenor                      | : Dr. Shirish P. Jain   |
| Date                          | : 05 Feb 2019   |
| Time                          | : 11.00 AM to 04.00 PM  |
| Objective of program          | : To learn and acquire the basic knowledge regarding rational uses of animals in preclinical research as per requirement of protocol<br>To gained the knowledge about identification various animals and sex determination along with experimental applications |
| Expected outcome              | : Participated students were gained knowledge about the various animals species used in experimental pharmacology along with identification sex determination with its applications and demerits in experimental protocol                                       |
| Funding agency                | : Self-Funded (Institute Level)   |
| No. of participants/delegates | : 25  |





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### Day 2 Course Report

The Second day of program was Co-ordinated by Dr. Shitalkumar Zambad, faculty member from Department of Pharmacology, RSCP, Buldana. He has started his session by sharing the main objective of this course by providing the knowledge regarding basics of experimental pharmacology and importance of animals in preclinical research to the participated students. Initially, he discussed that importance of experimental animals and after words he had been discussed the various animals used in experimental pharmacology and their relevance in individual protocol related to CNS Pharmacology, Cardicvascular Pharmacology, GIT Pharmacology, Metabolic diseases, Diabetes and Co-morbidity & toxicity of organ system etc.

Sir, also shared and discussed the importance of animals species, sex determination techniques along with differentiation of transgenic & knockout rodents required in specific studies like screening of anticancer drugs, drug used in genetic disorders etc.


Moreover sir also emphasized on hematological screening of drug, biomarkers and evaluation of antioxidant parameters with their correlations to the various diseases

At the end of the program vote of thanks was proposed by Mr. M.N. Deokar, Assistant professor, Department of Pharmacology, RSCP Buldana.

Date: 05<sup>th</sup> Feb 2019

  
Program Coordinator



  
Principal  
Principal  
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Malvihir, Buldana.





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Certificate Course of Techniques Used in Preclinical Research

Day 3

**Title of activity** : Certificate Course

**Topic** : Techniques in Animal handling and routes of drug administration in experimental animals

**Coordinator/s** : Mr. Mangesh N. Devkar / Sheetalkumar Zambad

**Convenor** : Dr. Shirish P. Jain

**Date** : 6 Feb 2019

**Time** : 11.00 AM to 04.00 PM

**Objective of program** : Participated students were learned about the basics in experimental pharmacology  
Students also gained the knowledge regarding ethical requirement of animal house facility

**Expected outcome** : The importance, scope of pharmacology along with principles in ethical requirement of animal house facility learned by students in order to create ethics and values.

**Funding agency** : Self-Funded (Institute Level)

**No. of participants/delegates** : 25

**Photos (if available), if it is online then add screenshots:**





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### **Day 3 Course Report**

Third day of course was coordinated by Mr. Magesh Deokar, he was the coordinator of the one week course program as well as faculty member from pharmacology department, RSCP, Buldana. Initially he shared the views about seminar amongst the students includes handling of experimental animals, various routes of drug administration, collection of various biological samples etc. for research and education purpose.

He also emphasized on the objective of this course, to provide knowledge regarding how to use animals in education and research and appropriate way to handle them without inducing stress in animals to complete the need of various experimental procedures used in behavioral pharmacology. He also discussed about the regulation regarding housing of an experimental animals. Moreover he has explained the operation in animal house facility. He has demonstrated the various routes of drug administration including oral, intra-peritonium, subcutaneous, intravenous and intramuscular. Dr. Sheetalkumar Zambad demonstrated the blood withdrawal techniques in experimental animals like retro-orbital and tail vein method.

During this training program, focus will be placed on animal handling and techniques for the following research applications, anesthetized resistance & compliance, improved restraint techniques for consciousness rodent application & program was concluded with vote of thanks was proposed by Mr. S. S. Hurdade.

**Date: 6<sup>th</sup> Feb 2019**

  
**Program Coordinator**



  
**Principal**

**Principal**  
**Rajarshi Shahu College of Pharmacy**  
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Day 4

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|-------------------------------|--|
| Title of activity             | : Certificate Course   |
| Topic                         | : Introduction to In -vivo & In-vitro Pharmacology &<br>Demonstration of Actophotometer  |
| Coordinator                   | : Mr. Mangesh. N. Deokar   |
| Convenor                      | : Dr. Shirish P. Jain  |
| Date                          | : 7 <sup>th</sup> Feb 2019   |
| Time                          | : 11.00 AM to 04.00 PM   |
| Objective of program          | : To learn and acquire the knowledge of In-vivo and In-<br>vitro pharmacology<br>To gained the knowledge about principle and working of<br>actophotometer along with evaluation and its application in<br>in -vivo screening method of drugs |
| Expected outcome              | : Participated students were gained knowledge about<br>methods and animals model used in in-vitro and in-vivo<br>pharmacology<br>They also learned about the tool required for screening of<br>drugs related to locomotor activity           |
| Funding agency                | : Self-Funded (Institute Level)  |
| No. of participants/delegates | : 25   |



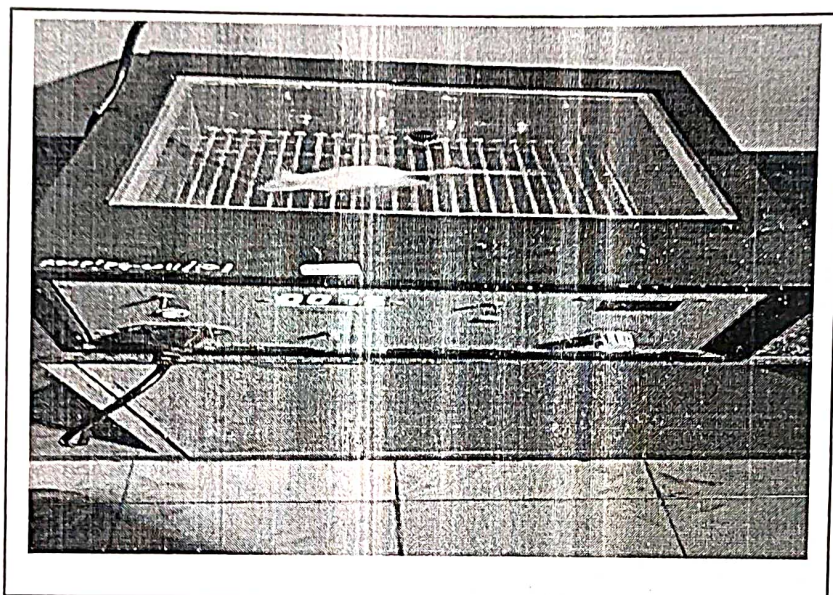
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#### Day 4 Course Report

The fourth day of programme was Co-ordinated by Mr. N. Deokar one of faculty member in pharmacology department .

Initially, he has discussed the basics and introduction about in-vitro and in-vivo pharmacology in this topic he covered the many things including requirement, different animal models and its application in behavioral pharmacology as well as molecular pharmacology of the experimental animals.


Sir, also explained many technical factors like construction, principle, working and demonstration of actophotometer along with its applications and evaluation for research and education purpose.

Additionally, he focused on the theoretical aspects of neuroscience which include protocol designing and demonstrated the working of actophotometer and its relation to locomotor activity and how they relate to the CNS stimulant and CNS depressant effects of drugs in the experimental animals. At the end of the programme vote of thanks was proposed by Mr. S.S. Hurpade, Assistant professor, Department of Pharmacology, RSCP, Buldana

Date: 7<sup>th</sup> Feb 2019

  
Program Coordinator



  
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Malvihir, Buldana.

**Day 5**

|                                      |  |
|--------------------------------------|--|
| <b>Title of activity</b>             | <b>: Certificate Course</b>  |
| <b>Topic</b>                         | <b>: Demonstration on Hot Plate &amp; Tail flick Apparatus</b>   |
| <b>Coordinator/s</b>                 | <b>: Mr. Mangesh N. Deokar / Mr. Mahendra Giri / Mr.S.Hurpade</b>  |
| <b>Convenor</b>                      | <b>: Dr. Shirish P. Jain</b>   |
| <b>Date</b>                          | <b>: 8<sup>th</sup> Feb 2019</b>   |
| <b>Time</b>                          | <b>: 11.00 AM to 04.00 PM</b>  |
| <b>Objective of program</b>          | <b>: To understand the purpose and rationale of pain, algesia, analgesic along with differentiation of central and peripheral analgesics</b><br><b>To acquire the knowledge about principle and working of Analgesiometer with evaluation and its application in screening of analgesic category of drugs.</b> |
| <b>Expected outcome</b>              | <b>: Participated students were benefited and learned about methods for screening of analgesic drugs .</b>   |
| <b>Funding agency</b>                | <b>: Self-Funded (Institute Level)</b>   |
| <b>No. of participants/delegates</b> | <b>: 25</b>  |

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### Day 5 Course Report

Mr. Mahendra Giri, a faculty member from pharmacology department, coordinated the fifth day of the programme.


In the beginning, he reviewed the fundamentals and introduction about pain, nociception, acute pain, chronic pain, classification of analgesic and its mechanism. In his session he also covered the requirements, various in-vivo and in-vitro animal models for screening of analgesic drugs and its purpose and rational. They also explained target for pain killer along with many technical factors, including construction, principle, working and demonstration of analgesiometer and tail flick apparatus long with its applications and evaluation for the research and education purpose.

At the conclusion of the session, he discussed neuropathic pain and its associations with disease conditions like diabetes and cancer etc. He also highlighted the induction methods of algisia (nociception) in experimental animals, including the thermal method, electrical stimulus, chemical method, and mechanical stimulus method. At the end of the event Mr. M. N. Deokar, Assistant Professor, Department of Pharmacology, RSCP, Buldana, proposed a vote thanks.

Date: 8<sup>th</sup> Feb 2019

  
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**Day 6**

|   |  |
|---|--|
| <b>Title of activity</b>  | <b>: Certificate Course</b>  |
| <b>Topic</b>  | <b>: Demonstration of Plethysmometer</b>   |
| <b>Coordinator/s</b>  | <b>: Mr. Mangesh N. Deokar / Mr. S.S. Hulpade</b>  |
| <b>Convenor</b>   | <b>: Dr. Shirish P. Jain</b>   |
| <b>Date</b>   | <b>: 9<sup>th</sup> Feb 2019</b>   |
| <b>Time</b>   | <b>: 11.00 AM to 04.00 PM</b>  |
| <b>Objective of program</b>   | <b>: To understand the purpose and rationale of plethysmometer in research and academia<br/>To acquire the knowledge about principle, calibration and working of Plethysmometer with evaluation and its application in inflammation.</b> |
| <b>Expected outcome</b>   | <b>: Participated students were benefited and learned about methods for screening of anti-inflammatory drugs .</b>   |
| <b>Funding agency</b>   | <b>: Self-Funded (Institute Level)</b>   |
| <b>No. of participants/delegates</b>                                | <b>: 25</b>  |
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### Day 6 Programme Summary

Mr. S.S. Hurdade, a faculty member from the pharmacology department, was coordinated the final session on the last day of the training program. In the beginning, he reviewed the fundamentals and introduction about inflammation include definition, types, mechanism of acute and chronic inflammation.

Additionally he also covered the requirements, various in-vivo and in-vitro animal models for screening of anti-inflammatory drugs with its purpose and rational. They also explained the classification of inflammatory mediators along with individual role of active mediators in the inflammation process and diseases.


The student also benefited from learning technical aspects, such as the Plethysmometer construction, operation, calibration, demonstration, and result interpretation, as well as its uses and evaluation for research and academic institutional purposes.

At the conclusion of the session, he also highlighted the induction methods of inflammation in experimental animals, including the thermal method, electrical stimulus, chemical method, and mechanical stimulus method. Finally valedictory session was proposed by Mr. M. N. Deokar, Assistant Professor, Department of Pharmacology, RSCP, Buldana.

Date: 9<sup>th</sup> Feb 2019

  
Program Coordinator



  
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