



KRUPANIDHI COLLEGE OF PHARMACY

(Approved by AICTE & PCI, New Delhi, Affiliated to RGUHS, Bengaluru)
Accredited with Grade 'A' by NAAC, Bengaluru | ISO 9001 - 2015 Certified
12/1, CHIKKA BELLANDUR, CARMELARAM POST, VARTHUR HOBLI, BANGALORE - 560 035



5.1.3 Capacity building and skills enhancement initiatives taken by the institution

ICT/computing skills

SI No	Name of the Document	Link to document
1	JMP Software Program- Formulation Development	Click here
2	R Studio software-Biostatistics	Click here
3	Ex-Pharma Series software	Click here

For the Year

2017-2018



KRUPANIDHI COLLEGE OF PHARMACY

RECOGNISED BY GOVT OF KARNATAKA | APPROVED BY PHARMACY COUNCIL OF INDIA |
AICTE, NEW DELHI AND AFFILIATED TO RAJIV GANDHI UNIVERSITY OF HEALTH SCIENCES
| AN ISO 9001:2015 CERTIFIED INSTITUTION NAAC 'A' GRADE ACCREDITED
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ITMP software program formulation development

7/08/2017
to
16/6/2018



8/3/18
PR
Krupanidhi College of Pharmacy
Chikkabelandhur
Bangalore



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DATE: 02.08.2017

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This is to inform all the B Pharm, M Pharm, Pharm D students that, the college is organizing the **JMP Software Programm- Formulation Develepment** training program from 07.08.2017 to 16.06.2018. All the interested students can attend the program.




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JMP (statistical software)

- ❖ JMP (pronounced "jump") is a suite of computer program for statistical analysis developed by the JMP business unit of SAS Institute.
- ❖ At Krupanidhi College of Pharmacy, we extensively use **JMP® 13.2.1 software (Academic license from SAS, SAS Institute, Cary, NC, USA)** for performing statistical analysis of data generated through students' academic projects.

Beneficiaries of the Software:

I and II M Pharm students (Dept. of Quality Assurance and Dept. of Pharmaceutics) undertaking academic projects are the primary beneficiaries of the tool. The software is also used to provide hands-on training for IV B Pharm students on application of software in product development.

Activities performed using JMP:

- ❖ Pharmaceutical formulation development:
 - ✓ Representing the risk involved in the product development- Inshikawa diagram.
 - ✓ Statistical Design of experiment.
 - ✓ DoE Evaluation/Model Fit.
 - ✓ Validation of the selected design.
 - ✓ Optimized formulation development.

Software Utilization in Krupanidhi College of Pharmacy:

Since 2016, JMP has been used extensively in Krupanidhi College of Pharmacy for M PHARM student project purpose:

Total projects involving JMP : 6




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JMP SOFTWARE PROGRAMME –LIST OF CANDIDATE- 2017-18

NAME OF THE STUDENT	COURSE
RANJITH	MPHARM
ROOPA	MPHARM
SHAJIYA BHANU	MPHARM
BIKASH PADAY	MPHARM
ANJANA ANIL	MPHARM
JOSLIN J	MPHARM
PRIYANKA R	MPHARM



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*R-studio software
Biostatistics*

*7/08/2017
to
16/6/2018*





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R Studio & EZR

- ❖ R is a free software environment for statistical computing and graphics. It compiles and runs on a wide variety of UNIX platforms, Windows and MacOS.
- ❖ EZR is a graphical user interface for R based on R commander.
- ❖ At Krupanidhi College of Pharmacy, we extensively use EZR and R foundation package for performing statistical analysis of data generated through students' academic projects.

Beneficiaries of the Software:

V & VI Pharm D students undertaking academic projects are the primary beneficiaries of the tool. The software is also used to provide hands on training for IV PharmD students on Biostatistics.

Activities performed using EZR Interface for R:

- ❖ Sample size estimation for pharmaco epidemiologic and clinical interventional studies involving human participants as follows:
 - ✓ Sample size estimation from control and desired response rates.
 - ✓ Sample size estimation from proportion and confidence interval.
 - ✓ Sample size estimation for comparison with specified proportion.
 - ✓ Power calculation for comparison with specified proportion.
 - ✓ Sample size estimation for non-inferiority trial of two proportions.
 - ✓ Sample size estimation from standard deviation and confidence interval.
 - ✓ Sample size and power calculation for comparison between two means.
 - ✓ Sample size and power calculation for comparison and non-inferiority trial of two survival curves and two paired means.
- ❖ Perform the following descriptive summary and inferential statistics involving discrete and continuous variables.
 - ✓ Frequency distributions
 - ✓ Assess data normality using Q-Q plot and Shapiro-Wilk test
 - ✓ Compute measures of central tendency and dispersion
 - ✓ Construct relevant graphs and charts for given statistical tests.



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- ✓ Perform parametric (Unpaired t-test, paired t-test and ANOVA) and non-parametric tests (Mann-Whitney U, Wilcoxon Rank Sum and Kruskal Wallis test) for comparison.
- ✓ Perform Pearson's Product Moment Correlation and Spearman's Ranked Correlation of continuous variables.
- ✓ Perform Chi-square and Fisher's Exact test to associate dichotomous variables.
- ✓ Perform post-hoc analysis of variables involving ordinary and repeated measures: Bonferroni corrections.

Software Utilization in Krupanidhi College of Pharmacy:

Since 2018, EZR has been used extensively in Krupanidhi College of Pharmacy for V year PharmD project statistical analysis purpose:

1. Total projects involving EZR : 09
2. Total students utilized EZR for academic projects : 14
3. Total papers published using EZR as statistical tool : 04
4. Total students trained in EZR for statistical analysis : 42 (Beginner level proficiency)

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NAME LIST – R STUDIO (2017-18)

1.	15Q0801	ABIYA VARGHESE
2.	15Q0802	AKASH ASHOK MANVI
3.	15Q0803	ALISA LALBIAKKIMI SAILO
4.	15Q0804	BEHROOZ SAKI TAVANDASHTI
5.	15Q0805	ELMER CLOVER RODRIGUES
6.	15Q0806	FATEMEH ASADI MOBARAKEH
7.	15Q0807	F. LALHMANGAIHZUAI
8.	15Q0808	GOWTHAM S E
9.	15Q0809	KARAN JAIDEEP
10.	15Q0810	KISHOR G S
11.	15Q0811	MADHUSHREE I
12.	15Q0812	MILTON GREGORY VARGHESE
13.	15Q0813	MUNAZZA AFREEN
14.	15Q0814	NANDINI R
15.	15Q0815	NIGIN RAHIMI FARD
16.	15Q0816	NISHANTH S
17.	15Q0817	PRAMITAV DEBNATH
18.	15Q0819	SANDHYA S
19.	15Q0820	SAVITHA M
20.	15Q0821	SHIMA RAHIMIFARD
21.	15Q0823	SHIVANKAR PRADHAN
22.	15Q0822	SHIVAANI M U
23.	15Q0824	SMRITHI S
24.	15Q0825	SOWMYA
25.	15Q0825	SOWMYA N K
26.	15Q0827	SWATHI KIRAN B S
27.	15Q0829	TAMIZH SELVAN E
28.	15Q0828	T A SYED SADATHULLA
29.	15Q0830	ZARZOLIANA
30.	15B0835	RIDASHISHA RYNDENG
31.	16Q0813	MS. MERLIN MARY SABU
32.	16Q0814	MR. PAVAN.M
33.	16Q0815	MR. PAVAN . N
34.	16Q0816	MS. PHARIDA THUBRU
35.	16Q0817	MR. RAJESHKUMAR DUTTA




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36.	16Q0818	MS. SHIJI JOHN
37.	16Q0819	MS. SHYNO ABRAHAM
38.	16Q0820	MR. SIDHARTH
39.	16Q0821	MS. SUBHIKSHA. V
40.	16Q0822	MS.THEERDHA DHAR
41.	16Q0823	MS. THENDRAL. R
42.	16Q0824	MS. TRIVENI . L




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Expharma series software

7/08/2017 to 16/6/2018



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Handwritten signature and date 8/10/22

Handwritten signature and the word Principal

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SUMMARY ON EXPHARMA SERIES

(EXPERIMENTAL PHARMACOLOGY SERIES)

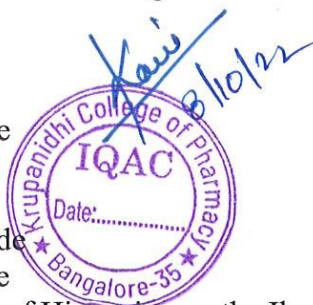
- This is a computer assisted learning package containing various programs which simulate animal experiments in Pharmacology.
- These programs can be used to demonstrate drug on different animal's systems.
- The package is user friendly, highly interactive and full of animated sequences which make simulation appear realistic.


BENEFICIARIES OF THE SOFTWARE:

- ❖ Software is aimed for medical, pharmacy and dental undergraduate students. The software can also be used by the students of paramedical courses such as nursing, medical laboratory technology and physiotherapy etc.
- ❖ IV, V, VI Sem B. Pharm and III PharmD students undergoes the regular practicals by using this software.

ACTIVITIES PERFORMED USING EXPHARMA SOFTWARE:

1. Experiment on effects of various drugs (Mydriatic, Miotic and Local Anaesthetic) on rabbit's eye.
2. (Epinephrine, Atropine, Ephedrine, Physostigmine, Lignocaine)
3. Study of Analgesic activity with the help of "Tail Flick Apparatus" (Analgesiometer).
4. Study of Antihistaminic drugs/Anti allergic drugs by mast cell stabilization method with the help of "Histamine Chamber"
5. Study of Muscle Relaxant activity with the help of "Rota-Rod Apparatus".
6. Study of CNS Depressants & Stimulants Using "Actophotometer".
7. Study of Analgesic activity with the help of "Hot Plate Apparatus" (Analgesiometer).
8. Effect of Different Drugs (Including Saline Purgatives) on Ciliary Motility of Frog Oesophagus.
9. Study of Drugs acting on CNS (Including Anxiolytic Activity) using following modules
 - Elevated Plus Maze Method
 - Pole Climbing Method
10. Study of anticonvulsant activity using "Electro Convulsimeter".
11. Experiment on Effect of various drugs on Isolated Frog's Heart. (DRC- Dose Response Curve)
 - Epinephrine
 - Norepinephrine
 - Isoprenaline
 - Calcium Chloride
 - Propranolol
 - Acetylcholine
 - Potassium chloride
 - Atropine sulphate
12. Experiment on Bioassay of Histamine on the Ileum of Guinea Pig.
13. Simulation of pupil control
 - Simulation of the effects of the physiological stimuli and drugs on the papillary reflexes.
 - Simulation of the control in patient with partial parasympathectomy.
14. Experiments on Lagendorff's Apparatus
 - Effect of coronary vasodilators on isolated heart
 - Effect of parasympathomimetics.
15. Test for pyrogens using rabbits.
16. Effect of drugs on isolated guinea pig ileum (in-vitro).
17. To Study Respiratory depression effect on rabbit.




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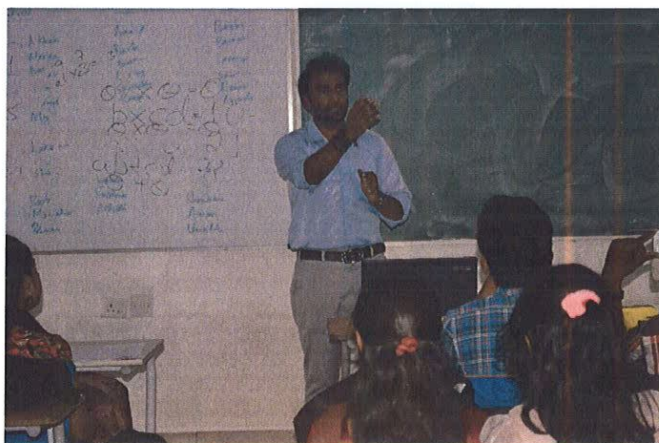



18. Determination of acute irritation of a test substance.
 - Skin irritation (Including edema formation)
 - Eye irritation
19. Experiments on colonic motility in rat in vitro.
20. Experiments on thyroid and antithyroid drugs
 - The effect of thyroxine, TSH, propylthiouracil, on metabolism.
21. Experiments on blood sugar
22. - The effect of insulin (hypoglycaemic activity) and alloxan on blood glucose.
23. Bioassay of Acetylcholine on the isolated rectus abdominis muscle of frog
 - By Matching Method
 - By Interpolation Method
 - By 3 Point Method
 - By 4 Point Method

EXPHARMA SERIES UTILIZATION IN KRUPANIDHI COLLEGE OF PHARMACY

- Since 2018, Expharma series has been extensively used in Krupanidhi College of Pharmacy for IV year B. Pharm and III Pharm D students for learning Simulated experiments in pharmacology.
- Total Number of experiments involving Expharma series :23
- Total Number of students used Expharma series:
 1. IV year B. Pharm – 100 students
 2. III Pharm D – 30 students.
 3. Total- **130 students.**

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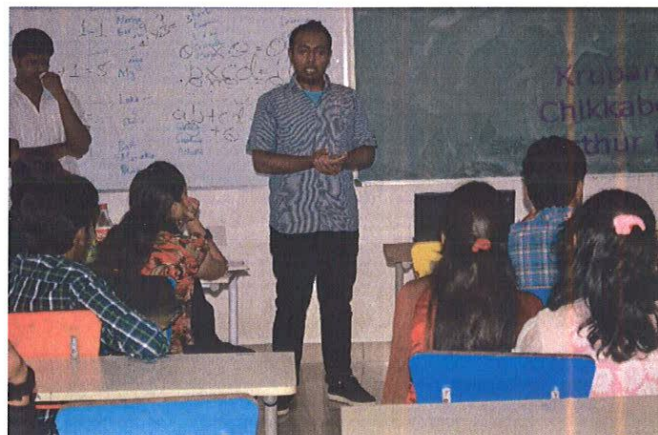
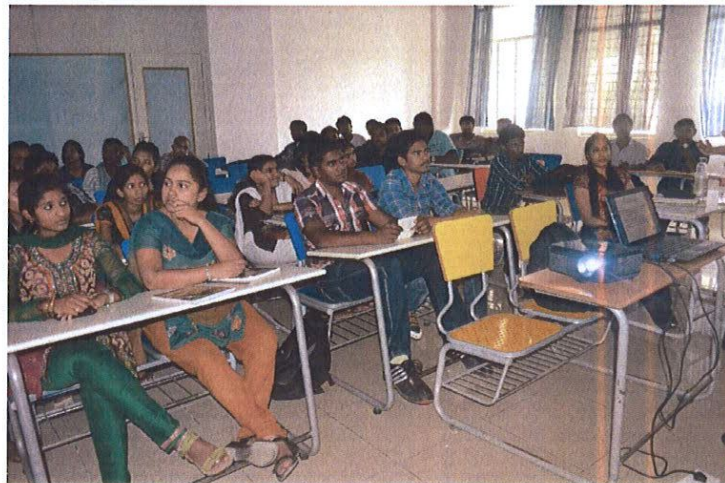


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2017-18

NAME LIST-EXPHARMA SERIES

1.	Arun Kumar A
2.	Acquiline Cladius
3.	Akhila Joy
4.	Akpobome Okiemute Precious
5.	Albini William Laa Awol
6.	Amulya P Shetty
7.	Anusha V
8.	Arun Kumar C
9.	Ayona Mathew
10.	Bindu M
11.	C Arun Kumar
12.	Carinthia Lyngdoh
13.	Chaithra H
14.	Esther Zosangliani
15.	Gowtami V
16.	Harshitha C
17.	Hoshank Varma
18.	Kavyashree V
19.	Keerthana G
20.	Keerthika P
21.	Lalrizuala
22.	Laxmi
23.	Leslie Mathai
24.	Lokeshwari N
25.	Manushree V
26.	Meghana K N
27.	Pavithra M
28.	Pooja Laxman
29.	Ramesh N
30.	Rishabh Baliyan
31.	Sai Teja Kandimalla
32.	Sanjay S N
33.	Santino Yel Atak Tong



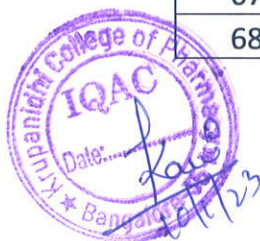

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34.	Somashekar G S
35.	Srijana Gauro
36.	Supriya H B
37.	Swathi R
38.	Tejcoomar Lofur
39.	Ufomba Isaac O
40.	Umme Saba
41.	Vinutha K
42.	Vishranth N
43.	Amar Kishor Das
44.	Kamlesh Awasthi
45.	Moinudheen
46.	Omokuwajo Temiyope Mary
47.	Prakash M
48.	R Deepak Prasad
49.	Thirunavukarasu M
50.	Veena S
51.	Muruli R
52.	Mohammed Belal Nasim
53.	Niharika N
54.	Waleed Adam Abaker
55.	Pooja C
56.	Sania Azeez
57.	Sushila
58.	A K Aswathy
59.	Ahmed Mustafa Shariff
60.	Ammu J
61.	Aporrva G L
62.	Arjun Alex John
63.	Chandanashree K S
64.	Danyah Rizwanulla Sheriff
65.	Dimple Yadav M
66.	Dipendra Bhatt
67.	Divya A
68.	Feba Elsa Isen




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69.	Gayathri Jayakumar
70.	Grishma Ann Thomas
71.	Hamed Sohrabi
72.	Milan Tiwari
73.	Mona Salehitavana
74.	Neeraj Pant
75.	Neethal Sequeira
76.	Nikhil S
77.	Nithya Pradeep
78.	Sachin Louis
79.	Sheetal Maria Jimmy
80.	Shona George
81.	Shiv Kumar R
82.	S Sonniya Bindumathi
83.	Spoorthi k
84.	Sunil K R
85.	Syed Saud Ahmed
86.	Varun K V
87.	Samyuktha A
88.	Aarsha Joby
89.	Adhin John Varghese
90.	Allu Jaya George
91.	Amrutha Thomas
92.	Anamika Chalise
93.	Anjali A Nair
94.	Arathy Thomas
95.	Aryamol George
96.	Ashutosh Shrestha (Banu
	B V Sindhuja
97.	Bidhan Kafle
98.	Irene Maria Korah
99.	Jangam Sireesha
100.	Jemi Elza Varkey
101.	Jiji Angali George
102.	Kabindra Karna
103.	Merin Mathew
104.	Nayana Manjally




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105.	Pawan Bhusal
106.	Prannoy Shanker P V
107.	Predy Khadka
108.	Rohini S Kumar
109.	Shaik Kaleem Basha
110.	Sujan K C
111.	Thejus Salomy Thomas
112.	Vrinda Sreekumar
113.	Ajay Shah
114.	Amal sebatian
115.	Binay Gupta
116.	Deepak Bhatt
117.	Dinesh Kumar Yadav
118.	Jitty Jose
119.	Keshav Kunwar
120.	Kishore Kumar G
121.	Miriam Lalmuanpuli
122.	Muhammed Ashique K
123.	Nesrin Alyan
124.	Patel Trushitkumar Bhupendrabhai
125.	Rjender Dingh
126.	Renjjoy Mathews
127.	Riju Pathak
128.	Saugat Dahal
129.	Singuluri Divya Jyothi
130.	Yalla Ujwal Teja




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