AS PER PCI REGULATIONS

THIRD YEAR B. PHARM. SEMESTER-VI

EXPERIMENTAL PHARMACOLOGY-III

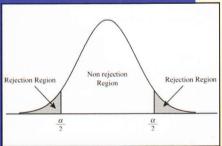
Dr. GHANSHYAM PANIGRAHI

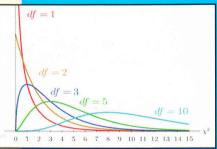
Dr. ARJUN PATRA













ABOUT THE AUTHORS



Dr. Ghanshyam Panigrahi is working as Associate Professor and Head, Department of Pharmacology, Royal College of Pharmacy and Health Sciences, Berhampur, Odisha. He has deep insight into experimental pharmacology and preclinical testing of drugs. He has experience of 13 years in teaching experimental pharmacology to undergraduate and postgraduate students. His fields of research interest are

natural product research, diabetes mellitus and associated disorders. His research work has been published in more than 35 research articles. He has guided numbers of M. Pharm. and Ph.D. scholars to carry out their research work. Dr. Panigrahi is a life member of Indian Pharmacological Society (IPS) and The Association of Pharmaceutical Teachers of India (APTI).



Dr. Arjun Patra obtained postgraduate and doctorate degree from Birla Institute of Technology, Mesra, Ranchi. Recently he has completed Postdoctoral Research in USA under Raman Fellowship funded by University Grants Commission. He has around 16 years of teaching experience in various pharmacy colleges at Berhampur, Moradabad and Jaipur, and currently working as Assistant Professor at Guru Ghasidas Vishwavidyalaya (A Central University), Bilaspur,

Chhattisgarh. Dr. Patra has supervised M. Pharm. and Ph.D. students and published and presented research papers in national/international journals/conferences. Dr. Patra specializes in Pharmacognosy and has studied a wide range of plants for their phytochemical and pharmacological potential. Dr. Patra's major fields of research interest are natural product exploration, nano-delivery of natural products for treatment of cancers and screening of medicinal plants for different pharmacological activities.



Email: niralipune@pragationline.com Website: www. pragationline.com

Also find us on www.facebook.com/niralibooks



@nirali.prakashan





Contents

Experiment No.	Experiment Title	Pag
	Guide to use this book	
1.	Dose calculation in pharmacological experiments. (Contributed by Dr. Ghanshyam Panigrahi and Dr. Arjun Patra)	8.
2.	Antiallergic activity by mast cell stabilization assay. (Contributed by Dr. Ghanshyam Panigrahi and Dr. Arjun Patra)	180
3.	Study of anti-ulcer activity of a drug using pylorus ligand (SHAY) rat model and NSAIDS induced ulcer model. (Contributed by Dr. Ghanshyam Panigrahi and Dr. Arjun Patra)	1
4.	Study of effect of drugs on gastrointestinal motility. (Contributed by Dr. Ghanshyam Panigrahi and Dr. Arjun Patra)	1
5.	Effect of agonist and antagonists on guinea pig ileum. (Contributed by Dr. Ghanshyam Panigrahi and Dr. Arjun Patra)	23
6.	Estimation of serum biochemical parameters by using semi- autoanalyser. (Contributed by Dr. Ghanshyam Panigrahi and Dr. Swaha Satpathy)	Z
7.	Effect of saline purgative on frog intestine. (Contributed by Dr. Ghanshyam Panigrahi and Dr. Arjun Patra)	38
8.	Insulin hypoglycemic effect in rabbit. (Contributed by Dr. Ghanshyam Panigrahi and Dr. Swaha Satpathy)	4
9.	Test for pyrogens (rabbit method). (Contributed by Dr. Swaha Satpathy and Dr. Arjun Patra)	45
10.	Determination of acute oral toxicity (LD50) of a drug from a given data. (Contributed by Dr. Ghanshyam Panigrahi and Dr. Swaha Satpathy)	45
11.	Determination of acute skin irritation / corrosion of a test substance. (Contributed by Dr. Ghanshyam Panigrahi and Dr. Arjun Patra)	61
12.	Determination of acute eye irritation / corrosion of a test substance. (Contributed by Dr. Ghanshyam Panigrahi and Dr. Arjun Patra)	61
13.	Calculation of pharmacokinetic parameters from a given data. (Contributed by Dr. Gourishyam Pasa and Dr. Ghanshyam Panigrahi)	74
14.	Biostatistics methods in Experimental Pharmacology (central tendency) (Contributed by Dr. Gourishyam Pasa)	85
15.	Biostatistics methods in Experimental Pharmacology (student's t test, ANOVA). (Contributed by Dr. Gourishyam Pasa)	98
16.	Biostatistics methods in Experimental Pharmacology (Chi-square test, Wilcoxon Signed Rank test). (Contributed by Dr. Gourishyam Pasa)	110
	Appendices	118
	Bibliography	121

Experiment No. 7

EFFECT OF SALINE PURGATIVE ON FROG INTESTINE

(Chapter contributed by Dr. Ghanshyam Panigrahi and Dr. Arjun Patra)

Purpose:

At the end of practical class, the students shall be able to:

- Know about the laxatives and purgatives.
- Know about the mechanism of action, uses and adverse effects of laxatives and purgatives.
- 3. Know the effect of saline purgative on frog intestine.

Terminology:

Laxative or Aprepitant: These are drugs that promote evacuation of bowels by milder action and elimination of soft but formed stools.

Purgative or Cathartic: These are drugs that promote evacuation of bowels by stronger action and resulting in more fluid evacuation.

Description:

Laxative and purgative are drugs that promote evacuation of bowels and a distinction is sometimes made according to the intensity of action. Many drugs in low doses act as laxative and in larger doses as purgative. All purgatives increase the water content of faeces by: (a) A hydrophilic or osmotic action, retaining water and electrolytes in the intestinal lumen increases thereby increasing the volume of colonic content and make it easily propelled. (b) Acting on intestinal mucosa, decrease net absorption of water and electrolyte; intestinal transit is enhanced indirectly by the fluid bulk. (c) Increasing propulsive activity as primary action, allowing less time for absorption of salt and water as a secondary effect.