



Experimental Pharmacology (Ex-Pharm) Series & Experimental Physiology (Ex-Physio) Series Software

HEALTH EDUCATION BUREAU

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HEALTH EDUCATION BUREAU

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Objective

"To bring innovative & affordable health and education products, so as to make health and education in reach of every Indian"

Genesis

The Health Education Bureau was launched, with the blessings of former President Dr. APJ Abdul Kalam. Its prime aim is to bring innovative & affordable health education products, so as to make health education in reach of every Indian.

About Experimental Pharmacology Series (Ex-Pharm 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 animals systems. The package is user friendly, highly interactive and full of animated sequences which make simulation appear realistic. The current version of Ex-Pharm series consists of following computer simulated experiments:

Experiments List

1. Experiment on effects of various drugs (Mydriatic, Miotic and Local Anaesthetic) on rabbit's eye.
 - Epinephrine
 - Atropine
 - Ephedrine
 - Physostigmine
 - Lignocaine
2. Study of Analgesic activity with the help of "Tail Flick Apparatus" (Analgesiometer).
3. Study of Antihistaminic drugs/Anti allergic drugs by mast cell stabilization method with the help of "Histamin

Chamber"

4. Study of Muscle Relaxant activity with the help of "Rota-Rod Apparatus".
5. Study of CNS Depressants & Stimulants Using "Actophotometer".
6. Study of Analgesic activity with the help of "Hot Plate Apparatus" (Analgesiometer).
7. Effect of Different Drugs (Including Saline Purgatives) on Ciliary Motility of Frog Oesophagus.
8. Study of Drugs acting on CNS (Including Anxiolytic Activity) using following modules
 - Elevated Plus Maze Method
 - Pole Climbing Method
9. Study of anticonvulsant activity using "Electro Convulsimeter".
10. 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
11. Experiment on Bioassay of Histamine on the Ileum of Guinea Pig.
 12. 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.
 13. Experiments on Lagendorff's Apparatus
 - Effect of coronary vasodilators on isolated heart
 - Effect of parasympathomimetics.
 14. Test for pyrogens using rabbits.
 15. To study the action of strychnine/ anesthetic on frog neurons (excitability) .
 16. Experiments on effect of different drugs on Dog BP & Heart Rate.
 - The Effect Of Epinephrine, Acetylcholine, Atropine On the Arterial Pressure (Dog-Blood Pressure).
 - Simultaneous analysis of effect of different drugs on Dog Heart Rate and Blood Pressure.
 17. Effect of drugs on isolated guinea pig ileum (in-vitro).
 18. To Study Respiratory depression effect on rabbit.
 19. Determination of acute irritation of a test substance.
 - Skin irritation (Including edema formation)
 - Eye irritation
 20. Experiments on colonic motility in rat in vitro.
 21. Experiments on thyroid and antithyroid drugs
 - The effect of thyroxin, TSH, propylthiouracil, on metabolism.
 22. Experiments on blood sugar
 - The effect of insulin (hypoglycemic 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
 24. Bioassay of oxytocin on the isolated rat uterine horn by following methods
 - By Matching Method
 - By Interpolation Method
 - By 3 Point Method
 - By 4 Point Method
 25. Bioassay of serotonin on the isolated rat fundus strip by following methods
 - By Matching Method
 - By Interpolation Method
 - By 3 Point Method
 - By 4 Point Method
 26. To record the dose response curve and to determine the PD₂ value for acetylcholine on frog rectus abdominis

muscle.

27. Study of anti-inflammatory activity using carrageenan induced paw oedema method
28. To study PTZ induced convulsions in mice
29. Study of diuretic activity using metabolic cage
30. To study analgesic activity by writhing test.
31. Study of anti ulcer activity - using pylorus ligation method.
32. Study of stereotype and anti-catatonic activity of drugs on mice
33. Evaluation of effect of acetylcholine (spasmogens) using rabbit jejunum

About Experimental Physiology Series (Ex-Physio Series)

This is a computer assisted learning package containing various programs which simulate animal experiments in Physiology. These programs can be used to perform virtual physiology experiments. The package is user friendly, highly interactive and full of animated sequences which make simulation appear realistic. The current version of Ex-Physio series consists of following computer simulated experiments:
Experiments List

A. EXPERIMENTS ON HEART (CARDIOVASCULAR SYSTEM)

- 1 Effect of electrical stimuli application on the cardiac activity.
- 2 Effect of several drugs and some chemical mediators on cardiac activity.
- 3 The influence of the cardiac output, the peripheral resistance and vascular elasticity on arterial pressure.
- 4 The measurement of the arterial tension by the Auscultatory method.
- 5 The influence of pressure, viscosity, radius, and length of the vessel on the flow of a liquid through the vessel.

B. EXPERIMENTS ON SKELETAL MUSCLES

- 1 The composed contraction of the skeletal muscles.
- 2 The simple contraction of the skeletal muscles.
- 3 The role of the motor end plate in initializing tiredness.
- 4 Action membrane potential.
- 5 Resting membrane potential.

C. EXPERIMENTS ON GIT (DIGESTIVE SYSTEM)

- 1 Digestive system- Substrate specificity of Salivary amylase.
- 2 Demonstration of the action of pancreatic lipase in the presence and absence of the bile.
- 3 The influence of pH on the action of pepsin.

D. EXPERIMENTS ON ISOLATED NEURON

- 1 The effect of anesthetic substance and low temperature on the excitability of nerve.

- 2 Determination of the action potential velocity.

E. EXPERIMENTS ON CEREBRAL AND PERIPHERAL INHIBITION

- 1 Cerebral inhibition.
- 2 Peripheral inhibition.
- 3 Pfluger's law.

F. EXPERIMENTS ON KIDNEY

- 1 The effect of hydrostatic pressure, osmotic pressure, diameter of the glomerular afferent and efferent arterioles on urine flow.
- 2 Influence of aldosterone and antidiuretic hormone on urine flow.
- 3 Influence of glucose on urine flow.

G. EXPERIMENTS ON RESPIRATORY SYSTEM

- 1 Pulmonary volumes and capacities and the influence of the radius of the airways on them.
- 2 The influence of pleural space pressure on pulmonary ventilation.
- 3 The effect of surfactant on pulmonary ventilation.

H. EXPERIMENT ON EFFECT OF VARIOUS DRUGS ON ISOLATED FROG'S HEART. (DRC- DOSE RESPONSE CURVE)

- 1 Epinephrine
- 2 Norepinephrine
- 3 Isoprenaline
- 4 Calcium Chloride
- 5 Propranolol
- 6 Acetylcholine
- 7 Potassium chloride
- 8 Atropine sulphate

I. EXPERIMENTS ON EFFECT OF DIFFERENT DRUGS ON DOG BP & HEART RATE

- 1 The Effect Of Epinephrine, Acetylcholine, Atropine On the Arterial Pressure (Dog-Blood Pressure).
- 2 Simultaneous analysis of effect of different drugs on Dog Heart Rate and Blood Pressure.

Why it is Necessary

AS PER MEDICAL COUNCIL OF INDIA

MCI has issued guidelines through Gazette Notification No. MCI-34(41)/2013-Med./64022; Dated 19 March 2014. The mentioned guidelines has stated that "For teaching Physiology and Pharmacology in UG curriculum, the required knowledge and skills should be imparted by using Computer Assisted modules".

AS PER PHARMACY COUNCIL OF INDIA

PCI has issued guidelines through Gazette Notification No.10-1/2012- PCI; Dated 25 August 2014. The mentioned guidelines has stated that "Wherever animal experimentations are prescribed in the curriculum, the required knowledge and skill should be imparted by using computer assisted modules".

Subscription Procedure

The software can be subscribed by sending the filled subscription form with the requisite fees (as mentioned in form), on below mentioned address.

Address:

Health Education Bureau
55/20, Rajat Path, Mansarovar,
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Experimental Physiology Series (Ex-Physio Series) Software	1 Year	4,970 ₹ (Basic Pack-for 10 experiment) (450 Rupee for each add. Exp.)	5864 ₹ (For Basic Pack)	<input type="checkbox"/>	Experimental Pharmacology Series (Ex-Pharm Series) Software	1 Year	4,970 ₹ (Basic Pack-for 10 experiment) (450 Rupee for each add. Exp.)	5864 ₹ (For Basic Pack)	<input type="checkbox"/>
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Plag-Check Software	Regular (For 50,000 pages)	9,790 ₹	11552 ₹	<input type="checkbox"/>	Digi-Frog Software	1 Year	1,400 ₹ (For any one animal)	1652 ₹	<input type="checkbox"/>
	Advance (For 1,00,000 pages)	18,000 ₹	21240 ₹	<input type="checkbox"/>		1 Year	4,250 ₹ (For Ten animals) 400 Rupees for each additional animal	5015 ₹ (For 10 animals)	<input type="checkbox"/>

*Prices includes delivery and maintenance cost also.

*Customized Packages (For desired duration/modules) are also available for all Journals/Softwares.

I/We Hereby Enclose the Demand Draft/Cheque/NEFT/RTGS/Online Transaction No. of Rupees.....Dated.....Bank & Branch Name..... in favor of "Health Education Bureau" Payable at Jaipur.

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