



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 (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

01. Experiment on effects of various drugs (Mydriatic, Miotic and Local Anaesthetic) on rabbit's eye.
 - Epinephrine
 - Atropine
 - Ephedrine
 - Physostigmine
 - Lignocaine
02. Study of Analgesic activity with the help of "Tail Flick Apparatus" (Analgesiometer).
03. Study of Analgesic activity with the help of "Hot Plate Apparatus" (Analgesiometer).
04. To study analgesic activity by writhing test.
05. Study of Antihistaminic drugs/Anti allergic drugs by mast cell stabilization method with help of "Histamine Chamber"
06. Study of Muscle Relaxant activity with the help of "Rota-Rod Apparatus".
07. Study of CNS Depressants & Stimulants Using "Actophotometer".
08. Study of Drugs acting on CNS (Including Anxiolytic Activity) using following modules
 - Elevated Plus Maze Method
 - Pole Climbing Method
09. Study of anticonvulsant activity using "Electro Convulsiometer".
10. To study PTZ induced convulsions in mice.
11. 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 parasymphathectomy.
12. Experiments on Lagendorff's Apparatus
 - Effect of coronary vasodilators on isolated heart
 - Effect of parasympathomimetics

13. Test for pyrogens using rabbits.
14. Effect of drugs on isolated guinea pig ileum (in-vitro).
15. To study respiratory depression effect on rabbit.
16. Study of stereotype and anti-catatonic activity of drugs on mice.
17. Experiments on thyroid and antithyroid drugs
 - The effect of thyroxin, TSH, propylthiouracil, on metabolism.
18. Experiments on blood sugar
 - The effect of insulin (hypoglycemic activity) and alloxan on blood glucose.
18. Study of anti-inflammatory activity using carrageenan induced paw oedema method.
20. Study of diuretic activity using metabolic cage.
21. Experiment on Effect of various drugs on Isolated Frog's Heart. (DRC- Dose Response Curve)
 - Epinephrine
 - Norepinephrine
 - Isopreneline
 - Calcium Chloride
 - Prapanolol
 - Actyelcholine
 - Potassium chloride
 - Atropine sulphate
22. Experiment on Bioassay of Histamine on the Ileum of Guinea Pig.
23. To study the action of strychnine/ anaesthetic on frog neurons (excitability).
24. 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.
 - Effects of drugs on blood pressure (vasopressor and vaso-depressors with appropriate blockers).
25. Bioassay of Acetylcholine on the isolated rectus abdominis muscle of frog
 - (a) By Matching Method, (b) By Interpolation Method, (c) By 3 Point Method, (d) By 4 Point Method.
26. Bioassay of oxytocin on the isolated rat uterine horn by following methods
 - (a) By Matching Method, (b) By Interpolation Method, (c) By 3 Point Method, (d) By 4 Point Method.
27. Bioassay of serotonin on the isolated rat fundus strip by following methods
 - (a) By Matching Method, (b) By Interpolation Method, (c) By 3 Point Method, (d) By 4 Point Method.
28. To record the DRC and to determine the PD₂ value for acetylcholine on frog rectus abdominis muscle.
29. Study of anti-ulcer activity - using pylorus ligation method.
30. Evaluation of effect of acetylcholine (spasmogens) using rabbit jejunum.

31. Evaluation of effect of different drugs on ciliary motility.
32. Evaluation of effect of saline purgatives on frog intestine.
33. Determination of acute irritation of a test substance.
 - Skin irritation (Including edema formation)
 - Eye irritation.

About Experimental Physiology (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.
3. Effects of drugs on blood pressure (vasopressor and vaso-depressors with appropriate blockers).

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,
Jaipur, (Rajasthan), PIN-302020

**Bureau For Health And Education Status Upliftment**

{Constitutionally Entitled As Health-Education, Bureau}

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Experimental Physiology (Ex-Physio) Series Software	1 Year (Basic Pack-for 10 experimental Modules)	4,970 ₹	5864 ₹	<input type="checkbox"/>	Experimental Pharmacology (Ex-Pharm) Series Software	1 Year (Basic Pack-for 10 experimental Modules)	4,970 ₹	5864 ₹	<input type="checkbox"/>
	1 Year (Comprehensive Pack -For all active Experimental modules)	9,920 ₹	11705 ₹	<input type="checkbox"/>		1 Year (Comprehensive Pack - For all active Experimental modules)	9,920 ₹	11705 ₹	<input type="checkbox"/>
	3 Years (Basic Pack-for 10 experimental Modules)	12,390 ₹	14620 ₹	<input type="checkbox"/>		3 Years (Basic Pack-for 10 experimental Modules)	12,390 ₹	14620 ₹	<input type="checkbox"/>
	3 Years (Comprehensive Pack -For all active Experimental modules)	25,040 ₹	29547 ₹	<input type="checkbox"/>		3 Years (Comprehensive Pack - For all active Experimental modules)	25,040 ₹	29547 ₹	<input type="checkbox"/>
Plag-Check Software	1 Year (Regular Pack) Checking Limit - In Queries* 50,000	6751 ₹	7966 ₹	<input type="checkbox"/>	Digi-Frog Software	1 Year (Mini Pack) (For one animal dissection module)	1,400 ₹	1652 ₹	<input type="checkbox"/>
	1 Year (Advance Pack) Checking Limit - In Queries* 2,00,000	14254 ₹	16819 ₹	<input type="checkbox"/>		1 Year (Regular Pack) (For Ten animals dissection modules) 400 Rupees for each additional animal	4,250 ₹	5015 ₹	<input type="checkbox"/>

*1 query means group of words, ending with full stop.

*Prices includes delivery and maintenance cost also.

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

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