



BUREAU FOR HEALTH AND EDUCATION STATUS UPLIFTMENT

{CONSTITUTIONALLY ENTITLED AS HEALTH EDUCATION, BUREAU}

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Ex Physio - Software

Ex Physio (Experimental Physiology) - Series Software



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What is Ex Physio (Experimental Physiology) - Series Software

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 Experimental Physiology (Ex-Physio) - series software consists of following computer simulated experiments:

01-07. AMPHIBIAN NERVE-MUSCLE EXPERIMENTS

- 01 Effect of temperature on simple muscle twitch.
- 02 Effect of two successive stimuli (of same strength) on skeletal muscle.
- 03 Effect of increasing strength of stimuli on skeletal muscle.
- 04 Effect of increasing frequency of stimuli on skeletal muscle (genesis of tetanus).
- 05 Effect of repeated stimuli on skeletal muscle (study of phenomenon of Fatigue).
- 06 Determination of conduction velocity of sciatic nerve.
- 07 Effect of free load (pre load) and after load on skeletal muscle.

08-13. EXPERIMENTS ON HEART (CARDIOVASCULAR SYSTEM)

- 08 Properties of cardiac muscles.
- 09 Effect of electrical stimuli application on the cardiac activity.
- 10 Effect of several drugs and some chemical mediators on cardiac activity.
- 11 The influence of the cardiac output, the peripheral resistance and vascular elasticity o
- 12 The measurement of the arterial tension by the Auscultatory method.
- 13 The influence of pressure, viscosity, radius, and length of the vessel on the flow of a liquid through the vessel.

14-18. EXPERIMENTS ON SKELETAL MUSCLES

- 14 The composed contraction of the skeletal muscles.
- 15 The simple contraction of the skeletal muscles.
- 16 The role of the motor end plate in initializing tiredness.
- 17 Action membrane potential.
- 18 Resting membrane potential.

19-21. EXPERIMENTS ON GIT (DIGESTIVE SYSTEM)

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

22-23-. EXPERIMENTS ON ISOLATED NEURON

- 22 The effect of anesthetic substance and low temperature on the excitability of nerve.
- 23 Determination of the action potential velocity.



24-26. EXPERIMENTS ON CEREBRAL AND PERIPHERAL INHIBITION

- 24 Cerebral inhibition.**
- 25 Peripheral inhibition.**
- 26 Pfluger's law.**

27-29. EXPERIMENTS ON KIDNEY

- 27 The effect of hydrostatic pressure, osmotic pressure, diameter of the glomerular afferent and efferent arterioles on urine flow.**
- 28 Influence of aldosterone and antidiuretic hormone on urine flow.**
- 29 Influence of glucose on urine flow.**

30-32. EXPERIMENTS ON RESPIRATORY SYSTEM

- 30 Pulmonary volumes and capacities and the influence of the radius of the airways on them.**
- 31 The influence of pleural space pressure on pulmonary ventilation.**
- 32 The effect of surfactant on pulmonary ventilation.**

33-40. EXPERIMENT ON EFFECT OF VARIOUS DRUGS ON ISOLATED FROG'S HEART. (DRC- DOSE RESPONSE CURVE)

- 33 Epinephrine**
- 34 Norepinephrine**
- 35 Isoprenaline**
- 36 Calcium chloride**
- 37 Propranolol**
- 38 Acetylcholine**
- 39 Potassium chloride**
- 40 Atropine sulphate**

41-55. EXPERIMENTS ON EFFECT OF DIFFERENT PHYSIOLOGICAL PROCEDURES AND DRUGS ON DOG BP & HEART RATE

- 41 Carotid Occlusion**
- 42 Central Vagus.**
- 43 Peripheral Vagus.**
- 44 Epinephrine (Adrenaline).**
- 45 Norepinephrine (Noradrenaline)**
- 46 Isoprenaline.**
- 47 Acetylcholine**
- 48 Histamine**
- 49 Ephedrine**
- 50 Phentolamine**
- 51 Propranolol**
- 52 Atropine**
- 53 Cimetidine.**

- Effects of vasopressor and vasodepressor with appropriate blockers..**
- 54 Virtual Practice- Reversal action of adrenaline on blood pressure and heart rate..**
- 55 Virtual Practice- Reversal action of acetylcholine on blood pressure and heart rate.**



Why it is Necessary

As per National Medical Commission

NMC Guidelines for Competency Based Medical Education (CBME) Curriculum 2024 - Notified on 12/09/2024, states to observe following experiments with computer assisted learning.

- (i) Amphibian nerve -muscle experiments
- (ii) Amphibian cardiac experiments

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 Veterinary Council of India

As per Veterinary Council of India (Minimum Standards of Veterinary Education)- Degree Course (B.V.Sc. & A.H.) Regulations,2016, all veterinary colleges should have simulation laboratory

As Per Pharmacy Council of India

In ER -2020 in the department wise list of equipment required, PCI has directed to make available Licensed Software packages for Physiological & Pharmacological experiments.

As Per Pharmacy Council of India

In Pharm D Syllabus in "Human Anatomy and Physiology - Syllabus" many experiments are prescribed on gastrocnemius muscle and sciatic nerve preparation, which are being covered by Ex Physio (Experimental Physiology) - Series Software.

Subscription Procedure:

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

Address:

Director

Digital Service Division

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55/20, Rajat Path, Mansarovar, Jaipur, Rajasthan, PIN-302020 (India).



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	3 Years (Comprehensive Pack)	25,040 ₹	29,547 ₹	<input type="checkbox"/>		3 Years (Basic Pack)	12,390 ₹	14,620 ₹	<input type="checkbox"/>
Ex-Physio (Experimental Physiology) - Software (All active experimental physiology modules)	1 Year (Comprehensive Pack)	9,920 ₹	11,705 ₹	<input type="checkbox"/>	Ex Physio (Experimental Physiology) - Software (For Selected 10 Modules)	1 Year (Basic Pack)	4,970 ₹	5864 ₹	<input type="checkbox"/>
	3 Years (Comprehensive Pack)	25,040 ₹	29,547 ₹	<input type="checkbox"/>		3 Years (Basic Pack)	12,390 ₹	14,620 ₹	<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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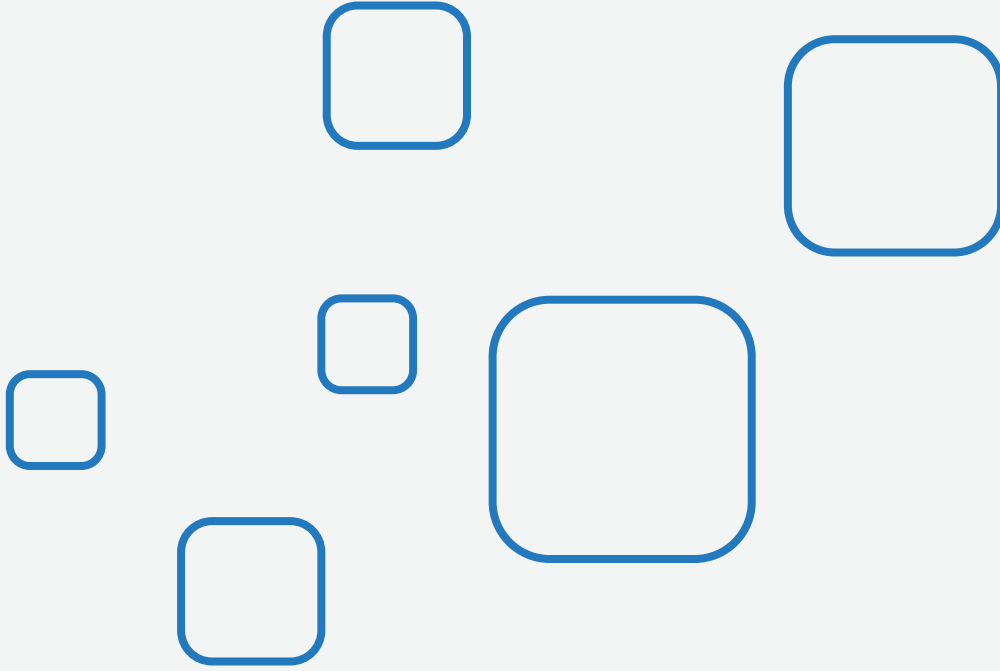
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