



جامعة بنها  
كلية الطب البيطري بمشتهر  
قسم الفسيولوجيا

**Phys** قائمة بعناوين الأبحاث الخاصة بمادة الفسيولوجي  
للفصل الدراسي الثاني العام الجامعي 2019-2020 م

أولا الفرقة الأولى:

- 1- Resting membrane potential
- 2- Diffusion potential
- 3- Equilibrium potential and Nernst equation
- 4- Action potential
- 5- Ion channels in the cell membrane
- 6- Local response (Electrotonic potential)
- 7- Biphasic action potential and demarcation potential
- 8- Conduction of action potential
- 9- Factors affecting nerve excitability.
- 10- Neuromuscular junction
- 11- Types of skeletal muscle fibers
- 12- Ultrastructure of skeletal muscles and motor unit
- 13- Mechanism of muscle contraction
- 14- Excitation contraction coupling and triad
- 15- Contractile proteins of muscles
- 16- Excitability changes during muscle contraction
- 17- Chemical or metabolic changes during muscle contraction
- 18- Thermal changes during muscle contraction
- 19- Electrical and ionic changes during muscle contraction
- 20- Factors affecting muscle contraction
- 21- Simple muscle twitch and factors affecting muscle contraction
- 22- Differences between skeletal muscle contraction and smooth muscle contraction.
- 23- General functions of the kidney
- 24- Juxtaglomerular apparatus
- 25- Measurement of renal blood flow

- 26- Formation of urine
- 27- Glomerular filtration rate
- 28- Functions of proximal convoluted tubules
- 29- Functions of distal convoluted tubules
- 30- Functions of the loop of Henle
- 31- Hormones acting on the kidney
- 32- Hormones produced by the kidney (Endocrine functions of kidney)
- 33- Production of hypertonic urine (concentration of urine)
- 34- Regulation of urine volume
- 35- The body fluid buffer system
- 36- Henderson Hasselbalch equation
- 37- Role of respiratory system in regulation of acid base balance.
- 38- Role of kidney in regulation of acid base balance.
- 39- Acidosis and Alkalosis
- 40- Gross and physiological energy of food
- 41- Direct calorimetry
- 42- Indirect calorimetry
- 43- Metabolic rate
- 44- Basal metabolic rate
- 45- Specific dynamic action
- 46- Body mechanism of heat loss
- 47- The thermoregulatory system
- 48- Thermoregulation against heat (reaction to heat exposure)
- 49- Thermoregulation against cold (reaction to cold exposure)
- 50- Comfortable environmental temperature