



Mansoura University Faculty of Medicine

Physiology Department Log Book 2016 - 2017

ختم القسم

إيصال تسليم Log Book

اسم الطالب :

الفرقة :

رقم الجلوس :

تاريخ التسليم :

توقيع المستلم :



رسالة الكلية

"تقديم مستوى عال التميز في التعليم والتدريب الطبي
وتقديم خدمات صحية متميزة للمجتمع
عن طريق المراكز الطبية المتخصصة
وكذلك الإرتقاء بالبحث العلمي"

رؤية الكلية

"أن نصنف إقليميا ونحقق التميز في التعليم الطبي
والبحوث وخدمة المجتمع"

Course Specification 2015/2016
For the Medical Physiology (second year)

Faculty : Medicine
Department : Medical Physiology

Course Specification

Programme(s) on which the course is given : M.B.B.Ch program
Department offering the course : Department of Medical Physiology
Academic year / level : 2nd year
Date of specification approval : 29/11/2015

A- Basic information

Title: Medical Physiology Code: PSL.2
Lecture: 150 Tutorial: Practical 60 Total: 210

B- Professional Information

1 - Overall Aims of Course

The overall aim of the course is to provide the students with the basic knowledge of physiology and develop several practical skills related to experimental work through training on several basic medical skills.

2 – Intended Learning Outcomes of Course (ILOs)

A - Knowledge and Understanding:

By the end of the course, students should be able to:

- A1- Identify the different components of CNS and role of each
- A2- Describe renal structure and explain functions of different parts of the nephron
- A3-Identify endocrinal glands and identify their functions, their regulation and homeostatic roles, discuss male and female reproductive function
- A4-Identify the special senses and explain the physiological anatomy of each sense
- A5- Explain the types of metabolic reactions, thermogenesis, food intake and their alteration during muscular exercise
- A6-Discuss different components of digestive system and its role in food ingestion, digestion, absorption and excretion

B- Intellectual Skills:

By the end of the course, students should be able to:

- B1- Integrate facts about function of different organs sub serving the homeostasis.as CNS, kidney, digestive system and endocrine gland
- B2- Solve medical problems on pathophysiological bases related to diagnosis and treatment of physiological problems as: PH disturbance, fluid and electrolytes disturbances, fever, hypothermia and sensory disturbances

C-Professional and Practical Skills:

By the end of the course, students should be able to:

- C1 Examine sensory function of CNS
- C2 - Elicit tendon jerk
- C3- Elicit superficial reflexes
- C4- Demonstrate small intestinal motility in isolated small intestinal segment of rabbit
- C5-Determine visual field
- C6-Determine visual acuity
- C7- Determine colour vision
- C8- Elicit light reflex and general reflexes

C9- Examine hearing acuity

C10- Compute renal clearance to study the kidney function

C11- Measure body temperature

C12- Perform pregnancy test

D- General and Transferable Skills:

By the end of the course, students should be able to:

D1. Adopt principles of the lifelong learning needs of the medical profession.

D2 Present information clearly in written, electronic and oral forms

D3 Work effectively within a team

3 – Contents

| Topic | No. of hours | Lecture | Practical |
|--|--------------|--|--|
| <u>1- Central Nervous System</u> 1. Basic organization and functions of the central nervous system. 2. The sensory system, and the sensory receptors. 3. Sensations, and Neural coding of sensory information. 4. Tactile sensations, Proprioceptive sensations, and Role of the cerebral cortex in somatic mechanoreceptive sensation. The sense of touch. Proprioceptive sensations. Role of the cerebral cortex in somatic mechanoreceptive sensation. 5. Pain sensation, Pain Control System, and Headache. Pain sensation. Pain Control System. Headache. 6. Thermal sensation. 7. Synapses of the CNS. Chemical synapses. Synaptic transmission. Postsynaptic receptors. Postsynaptic potentials. Presynaptic inhibition. Neurotransmitters in Central Nervous System The small-molecule neurotransmitters. Neuropeptides. 8. Motor functions of the spinal cord. Functional classification of Spinal reflexes. Spinal reflex arc. Afferent neurons. Interneurons. Efferent neurons. The withdrawal reflexes. General properties of polysynaptic somatic spinal reflexes. The muscle stretch reflex. Properties of stretch reflex. Inverse stretch reflex. Skeletal muscle tone. | 68 | 46 2 hour 2 hours 2 hours 3 hours 3 hours 2 hour 4 hours 4 hours | 22 6 hours 2 hours 2 hours 8 hours |

| | | | |
|---|--|---------|---------|
| The tendon jerks. | | | |
| 9. The descending motor system | | | |
| The corticospinal tract. | | 2 hours | |
| The rubrospinal Tract. | | | |
| The reticulospinal tracts. | | | |
| The tectospinal tract. | | | |
| The cerebral cortical motor areas. | | | |
| 10. Lower motor neuron lesions, Upper motor neuron lesions, and Spinal Cord lesions. | | | |
| Lower motor neuron lesions. | | 4 hours | 4 hours |
| Upper motor neuron lesions. | | | |
| Spinal Cord lesions. | | | |
| Complete transection of the spinal cord. | | | |
| Hemisection of the spinal cord. | | | |
| 11. The vestibular apparatus. | | | |
| The semicircular canals. | | | |
| The Utricle and Saccule. | | 2 hours | |
| Vestibular hair cells. | | | |
| Functions and Mechanism of action of vestibular receptors. | | | |
| Effects of stimulation of semicircular canals (SCCs). | | | |
| 12. Postural reflexes. | | | |
| Classification. | | 2 hours | |
| Static reflexes. | | | |
| Kinetic reflexes. | | | |
| 13. The thalamus, and the Reticular Activating System. | | | |
| The Thalamus. | | | |
| Functional Classification of thalamic nuclei. | | 3 hours | |
| Thalamic Functions | | | |
| The reticular activating system | | | |
| 14. The basal ganglia. | | | |
| Nuclei of the Basal Ganglia. | | | |
| Neural connections. | | 2 hours | |
| Functional Pathways in Basal Ganglia. | | | |
| Functions of the Basal Ganglia. | | | |
| Disorders of the Basal Ganglia. | | | |
| 15. The cerebellum: | | | |
| Functional Divisions. | | 2 hours | |
| Neural Connections. | | | |
| Functions of the Cerebellum. | | | |
| Clinical disorders of the cerebellum. | | | |
| 16. The Hypothalamus, and the Limbic System. | | | |
| The Hypothalamus. | | | |
| Hypothalamic nuclei. | | 3 hours | |
| Hypothalamic functions. | | | |
| The limbic system. | | | |
| Components. | | | |
| Neural Connections. | | | |
| Functions. | | | |
| 17. The cerebral cortex. | | 4 hours | |
| Electrical activity of the brain. | | | |
| Electroencephalogram. | | | |

| | | | |
|--|-----------|--|--------------------|
| <p>Sleep.</p> <p>Functional Areas of the Cerebral Cortex.</p> <p style="padding-left: 40px;">The cerebral cortical association areas.</p> <p style="padding-left: 40px;">The parieto-occipito-temporal association area.</p> <p style="padding-left: 40px;">The prefrontal association area.</p> <p>Neurophysiological basis of language.</p> <p>Role of the cerebral cortex in Learning and Memory.</p> | | | |
| <p>2- Kidney</p> <p>The overall kidney functions.</p> <p>Nephron.</p> <p>Juxtaglomerular apparatus.</p> <p>Renal blood flow RBF.</p> <p>Glomerular filtration.</p> <p>Glomerular filtration rate.</p> <p>Methods of studying renal physiology</p> <p>Application and use of clearance methods.</p> <ul style="list-style-type: none"> - Measurement of GFR. - Measurement of RBF. - Clearance ratio or fraction excretion. -Utilization of clearance methods for studying the transport maximum (T_m) of renal tubules. <p>Tubular function</p> <ul style="list-style-type: none"> * General factors affecting tubular transport. * Proximal tubule. * Loop of Henle. * Distal segment of the nephron. <p>Renal handling of water.</p> <p>Control of body fluid osmolarity (water balance).</p> <p>Regulation of sodium excretion & extracellular fluid volume.</p> <p>Diuresis and diuretics.</p> <p>Renal handling of K⁺, Ca⁺², mg⁺², and phosphate.</p> <p>Role of the kidney in acid - base balance.</p> <p>Applied physiology</p> <p>Micturition</p> | 34 | 26 | 8 |
| | | 1 hour 1 hour 1 hour 1 hour 1 hour 1 hour 1 hour 4 hours | 2 hours 4 hours |
| | | 2 hours 2 hours 2 hours 1 hours 2 hours 2 hours 1 hour 1 hour | 2 hours 2 hours |
| <p>3- Endocrine</p> <p>1. Introduction.</p> <p>2. The pituitary gland (hypophysis cerebri).</p> <ul style="list-style-type: none"> a) Anterior lobe (adenohypophysis). b) Posterior lobe (Neurohypophysis). <p>3. The thyroid gland.</p> <p>4. The parathyroid glands.</p> <p>5. Endocrine regulation of Ca⁺⁺ and PO₄ metabolism.</p> <p>6. The adrenal (or suprarenal glands).</p> <ul style="list-style-type: none"> a) Adrenal cortex. b) Adrenal medulla. <p>7. Hormones regulating blood glucose level.</p> <p>8. The reproductive system.</p> <ul style="list-style-type: none"> a) Male reproductive functions. b) Female reproductive functions. | 28 | 24 | 4 |
| | | 2 hours 4 hours | |
| | | 2 hours 2 hour 2 hour 4 hours | |
| | | 2 hours 6 hours | 4 hours |
| <p>4- Special senses</p> <p>Physiology of vision</p> | 30 | 16 | 14 |
| | | 6 hours | |

| | | | | | | | | | |
|---|--|--|---------|--------------------|--------------------|--|--|---------|--------|
| Physiological anatomy of the eye. <ul style="list-style-type: none"> * Extraocular structure * Eye ball The refractive media of the eye <ul style="list-style-type: none"> - The cornea - The intraocular fluids <ul style="list-style-type: none"> * The aqueous humour * The vitreous humour - The uveal tract <ul style="list-style-type: none"> * The iris * Control of papillary diameter <ul style="list-style-type: none"> # The papillary light reflex # Accommodation reflex # Size of the pupil during anaesthesia - The lens <ul style="list-style-type: none"> * Range and amplitude of accommodation * Abnormal conditions of the lens * Errors of refraction * Contact lenses - The retina <ul style="list-style-type: none"> * Histological structure * Layers of physiological importance * Special areas of the retina * Blood supply of the retina * Ionic basis of photoreceptor potential * Electroretinogram * Retinal adaptation * Duplicity theory of retinal function * After images and fusion of flickering light by the retina Visual acuity Colour vision The field of vision Binocular vision Image formation and on-off phenomenon Visual pathway Physiology of hearing Introduction Physiological anatomy of the ear <ul style="list-style-type: none"> - External ear - Middle ear - Inner ear <ul style="list-style-type: none"> * Functional anatomy of cochlea * The basilar membrane * Organ of corti * Stimulation of hair cells * Transmission of sound waves in the cochlea * Endocochlear potential * Cochlear microphonic potential Auditory pathway Encoding of auditory information Hearing defects | | | 2 hours | 2 hours 2 hours | 2 hours 2 hours | | | 4 hours | 6 hour |
|---|--|--|---------|--------------------|--------------------|--|--|---------|--------|

| | | | |
|---|-----------|----------------------|----------|
| <p>Methods for measuring acuity of hearing</p> <p>The chemical sense</p> <p>Taste sensation</p> <ul style="list-style-type: none"> - Basic taste modalities - Taste threshold and intensity discrimination - Taste buds - Mechanism of stimulation of taste buds - Nervous pathways of taste sensation - Taste reflexes - Taste preference and control of diet - Disturbance of taste sensation <p>Olfactory sensation</p> <ul style="list-style-type: none"> - Olfactory mucosa - Stimulation of olfactory receptors - The olfactory pathways - Olfactory threshold and discrimination - Adaptation of olfactory sense - Disturbance of smell sensation | | 2 hour | |
| <p>5- Metabolism</p> <p>Energy Metabolism</p> <ul style="list-style-type: none"> * Introduction * Metabolism * Energy metabolism * Units of energy * RQ <p>Metabolic Rate and Thermogenesis</p> <ul style="list-style-type: none"> * MR * Basal Metabolic Rate * Thermogenesis * SDA * Obligatory thermogenesis <p>Control of Food Intake and Regulation of Energy Stores</p> <ul style="list-style-type: none"> * Introduction * Energy stores * Regulatory system for control of food intake * Adiposity signals * Regulation of individual meal size and its integration with energy balance * Obesity * Starvation <p>Regulation of Body Temperature</p> <ul style="list-style-type: none"> * Variation in body temperature * Thermal balance * Physical aspects of heat loss * Physiological regulation of heat exchange * Cutaneous blood flow * Regulation of sweat * Physiological regulation of heat production * Regulation of body temperature * Concept of set-point * Feed back gain | 26 | 18 3 hours | 8 |
| | | 3 hours | 4 hours |
| | | 4 hours | |
| | | 5 hours | 4 hours |

| | | | |
|--|----|--|---|
| <ul style="list-style-type: none"> * Neural effector mechanisms when the body exposed to hot and cold * Adaptation to hot environment * Adaptation to cold environment * Pathological states with abnormal temperature regulation * Artificial hypothermia Physiology of Exercise <ul style="list-style-type: none"> * Introduction * Metabolic aspects of exercise * Energy sources * Energy requirements * Recovery of muscle metabolic system after exercise * O₂ debt * Nutrients of exercises RQ studies during exercise * Body heat & temperature during exercise | | 3 hours | |
| <u>6- Physiology of Gastro-Intestinal Tract</u> Introduction Regulation of GI function <ul style="list-style-type: none"> - Nervous control - Hormonal control (GI hormones) Salivary secretion Mastication Deglutition Oesophagus Stomach <ul style="list-style-type: none"> * Nerve supply * Gastric secretion * Mechanism and phases of gastric secretion * Gastric juice. <ul style="list-style-type: none"> - Cellular mechanism of HCl secretion - Control of HCl secretion. - Function of HCl * Gastric mucosal barrier <ul style="list-style-type: none"> - Peptic ulcer * Motor function of the stomach * Vomiting * Gastric function tests Pancreatic secretion <ul style="list-style-type: none"> * Nerve supply of pancreas * Composition of pancreatic secretion * Functions of pancreatic juice * Cellular mechanism of NaHCO₃ secretion by ductal cells * Control of pancreatic secretion * Tests for pancreatic functions Liver <ul style="list-style-type: none"> * Functions * Liver function tests Bile secretion <ul style="list-style-type: none"> * Composition of hepatic bile * Composition of gallbladder bile * Bile salts | 24 | 20 1 hour 2 hours 1 hours 1 hours 1 hours 1 hours 2 hours 3 hours 1 hours 2 hours | 4 |

| | | | |
|--|--|---------|---------|
| <ul style="list-style-type: none"> * Jaundice * Control of bile secretion * Functions of gallbladder * Gallbladder function tests <p>Small intestine</p> <ul style="list-style-type: none"> * Nerve supply * Functions of small intestine * Succus entericus * Absorption * Motor functions of small intestine * Ileocecal valve and sphincter <p>Large intestine</p> <ul style="list-style-type: none"> * Nerve supply * Functions of large intestine * Movements of large intestine * Regulation of colonic motility * Defecation | | 3 hours | 4 hours |
| | | 2 hours | |

| Course | Outcomes | | | | | | | | | | | | | | | | | | | | | | | |
|--|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|----|----|----|---|
| | A1 | A2 | A3 | A4 | A5 | A6 | B1 | B2 | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 | C11 | C12 | D1 | D2 | D3 | |
| 1- Central Nervous System | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. Basic organization and functions of the central nervous system. | √ | | | | | | √ | | | | | | | | | | | | | | | √ | √ | √ |
| 2. The sensory system, and the sensory receptors. | √ | | | | | | √ | | | | | | | | | | | | | | | √ | √ | √ |
| 3. Sensations, and Neural coding of sensory information. | √ | | | | | | √ | | √ | | | | | | | | | | | | | √ | √ | √ |
| 4. Tactile sensations, Proprioceptive sensations, and Role of the cerebral cortex in somatic mechanoreceptive sensation. | √ | | | | | | √ | | √ | | | | | | | | | | | | | √ | √ | √ |
| 5. Pain sensation, Pain Control System, and Headache. | √ | | | | | | √ | | √ | | | | | | | | | | | | | √ | √ | √ |
| 6. Thermal sensation. | √ | | | | | | √ | | √ | | | | | | | | | | | | | √ | √ | √ |
| 7. Synapses of the CNS. | √ | | | | | | √ | | | √ | | | | | | | | | | | | √ | √ | √ |
| 8. Motor functions of the spinal cord. | √ | | | | | | √ | | √ | √ | √ | | | | | | | | | | | √ | √ | √ |
| 9. The descending motor system | √ | | | | | | √ | | √ | √ | √ | | | | | | | | | | | √ | √ | √ |
| 10. Lower motor neuron lesions, Upper motor neuron lesions, and Spinal Cord lesions. | √ | | | | | | √ | | √ | √ | √ | | | | | | | | | | | √ | √ | √ |
| 11. The vestibular apparatus. | √ | | | | | | √ | | | | | | | | | | | | | | | √ | √ | √ |
| 12. Postural reflexes. | √ | | | | | | √ | | | | | | | | | | | | | | | √ | √ | √ |
| 13. The thalamus, and the Reticular Activating System. | √ | | | | | | √ | | | | | | | | | | | | | | | √ | √ | √ |
| 14. The basal ganglia. | √ | | | | | | √ | | | | | | | | | | | | | | | √ | √ | √ |
| 15. The cerebellum | √ | | | | | | √ | | | | | | | | | | | | | | | √ | √ | √ |
| 16. The Hypothalamus, and the Limbic System. | √ | | | | | | √ | | | | | | | | | | | | | | | √ | √ | √ |
| 17. The cerebral cortex. | √ | | | | | | √ | | | | | | | | | | | | | | | √ | √ | √ |
| 2- Kidney | | | | | | | | | | | | | | | | | | | | | | | | |
| The overall kidney functions. | | √ | | | | | √ | √ | | | | | | | | | | | | | | √ | √ | √ |
| Nephron. | | √ | | | | | √ | √ | | | | | | | | | | | | | | √ | √ | √ |
| Juxtaglomerular apparatus. | | √ | | | | | √ | √ | | | | | | | | | | | | | | √ | √ | √ |
| Renal blood flow RBF. | | √ | | | | | √ | √ | | | | | | | | | | | | | | √ | √ | √ |
| Glomerular filtration. | | √ | | | | | √ | √ | | | | | | | | | | | | | | √ | √ | √ |

| Course | Outcomes | | | | | | | | | | | | | | | | | | | | | | | | |
|---|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|----|----|----|--|--|
| | A1 | A2 | A3 | A4 | A5 | A6 | B1 | B2 | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 | C11 | C12 | D1 | D2 | D3 | | |
| Glomerular filtration rate. | | √ | | | | | √ | √ | | | | | | | | | | | | | √ | √ | √ | | |
| Methods of studying renal physiology | | √ | | | | | √ | √ | | | | | | | | | | | | | √ | √ | √ | | |
| Application and use of clearance methods. | | √ | | | | | √ | √ | | | | | | | | | | √ | | | √ | √ | √ | | |
| Tubular function | | √ | | | | | √ | √ | | | | | | | | | | | | | √ | √ | √ | | |
| Renal handling of water. | | √ | | | | | √ | √ | | | | | | | | | | | | | √ | √ | √ | | |
| Control of body fluid osmolarity (water balance). | | √ | | | | | √ | √ | | | | | | | | | | | | | √ | √ | √ | | |
| Regulation of sodium excretion & extracellular fluid volume. | | √ | | | | | √ | √ | | | | | | | | | | | | | √ | √ | √ | | |
| Diuresis and diuretics. | | √ | | | | | √ | √ | | | | | | | | | | | | | √ | √ | √ | | |
| Renal handling of K ⁺ , Ca ²⁺ , mg ²⁺ , and phosphate. | | √ | | | | | √ | √ | | | | | | | | | | | | | √ | √ | √ | | |
| Role of the kidney in acid - base balance. | | √ | | | | | √ | √ | | | | | | | | | | | | | √ | √ | √ | | |
| Applied physiology | | √ | | | | | √ | √ | | | | | | | | | | | | | √ | √ | √ | | |
| Micturition | | √ | | | | | √ | √ | | | | | | | | | | | | | √ | √ | √ | | |
| 3- ENDOCRINE | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. Introduction | | | √ | | | | √ | | | | | | | | | | | | | | √ | √ | √ | | |
| 2. The pituitary gland (hypophysis cerebri). | | | √ | | | | √ | | | | | | | | | | | | | | √ | √ | √ | | |
| 3. The thyroid gland. | | | √ | | | | √ | | | | | | | | | | | | | | √ | √ | √ | | |
| 4. The parathyroid glands. | | | √ | | | | √ | | | | | | | | | | | | | | √ | √ | √ | | |
| 5. Endocrine regulation of Ca ⁺⁺ and PO ₄ metabolism. | | | √ | | | | √ | | | | | | | | | | | | | | √ | √ | √ | | |
| 6. The adrenal (or suprarenal glands). | | | √ | | | | √ | | | | | | | | | | | | | | √ | √ | √ | | |
| 7. Hormones regulating blood glucose level. | | | √ | | | | √ | | | | | | | | | | | | | | √ | √ | √ | | |
| 8. The reproductive system. | | | √ | | | | √ | | | | | | | | | | | | | √ | √ | √ | √ | | |
| 4- Special senses | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. Physiology of vision | | | | √ | | | √ | | | | | | √ | √ | √ | √ | | | | | √ | √ | √ | | |
| 2. Physiology of hearing | | | | √ | | | √ | | | | | | | | | | √ | | | | √ | √ | √ | | |
| 3.the chemical sense | | | | √ | | | √ | | | | | | | | | | | | | | √ | √ | √ | | |
| 5- Metabolism | | | | | | | | | | | | | | | | | | | | | | | | | |
| Energy Metabolism | | | | | √ | | √ | | | | | | | | | | | | | | √ | √ | √ | | |
| Metabolic Rate and Thermogenesis | | | | | √ | | √ | | | | | | | | | | | | | | √ | √ | √ | | |

| Course | Outcomes | | | | | | | | | | | | | | | | | | | | | | | |
|--|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|----|----|----|---|
| | A1 | A2 | A3 | A4 | A5 | A6 | B1 | B2 | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 | C11 | C12 | D1 | D2 | D3 | |
| Control of Food Intake and Regulation of Energy Stores | | | | | √ | | √ | | | | | | | | | | | | | | | √ | √ | √ |
| Regulation of Body Temperature | | | | | √ | | √ | | | | | | | | | | | | √ | | | √ | √ | √ |
| Physiology of Exercise | | | | | √ | | √ | | | | | | | | | | | | | | | √ | √ | √ |
| 6-Physiology of Gastro-Intestinal Tract | | | | | | | | | | | | | | | | | | | | | | | | |
| Introduction | | | | | | √ | √ | | | | | | | | | | | | | | | √ | √ | √ |
| Regulation of GI function | | | | | | √ | √ | | | | | | | | | | | | | | | √ | √ | √ |
| Salivary secretion | | | | | | √ | √ | | | | | | | | | | | | | | | √ | √ | √ |
| Mastication | | | | | | √ | √ | | | | | | | | | | | | | | | √ | √ | √ |
| Deglutition | | | | | | √ | √ | | | | | | | | | | | | | | | √ | √ | √ |
| Oesophagus | | | | | | √ | √ | | | | | | | | | | | | | | | √ | √ | √ |
| Stomach | | | | | | √ | √ | | | | | | | | | | | | | | | √ | √ | √ |
| Pancreatic secretion | | | | | | √ | √ | | | | | | | | | | | | | | | √ | √ | √ |
| Liver | | | | | | √ | √ | | | | | | | | | | | | | | | √ | √ | √ |
| Bile secretion | | | | | | √ | √ | | | | | | | | | | | | | | | √ | √ | √ |
| Small intestine | | | | | | √ | √ | | | | | | √ | | | | | | | | | √ | √ | √ |
| Large intestine | | | | | | √ | √ | | | | | | √ | | | | | | | | | √ | √ | √ |

4 – Teaching and Learning Methods

| Teaching Methods | Description |
|-------------------|--|
| Lectures | Scientific material is presented through : 1- power point presentations 2- Animations & videos |
| Practical lessons | Each practical class is delivered in the following form : 1- Students are divided into 2 groups in 2 physiological laboratories 2- They have a short lecture to explain the background of the practical lesson (25 minutes) 3- Then each group is divided into small groups under supervision of demonstrators to do the practical part of the section (1 hour). 4- Then they record the data they have noticed in their practical books (20 mintues). |
| Self learning | PowerPoint presentation prepared by the student |

5 – Student Assessment Methods

| Method of assessment | Description | To Assess |
|---------------------------|--|---|
| 1- Written examinations | - An exam at the end of the academic year - consist of short Essay Questions in different branches | A1-A2-A3-A4-A5-A6- B1-B2 |
| 2- MCQ exams | - 2 exams which are held in January & May | A1-A2-A3-A4-A5-A6- B1-B2 |
| 3- Practical examinations | - An exam held by end of the academic year. - Consists of 5 experiments in a form of multi-station | C1-C2-C3-C4--C5-C6-C7-C8-C9-C10-C11-C12 |
| 4- Sheet examination | - An exam held by end of the academic year. - Consists of 35 MCQ which are related to the practical classes. | C1-C2-C3-C4--C5-C6-C7-C8-C9-C10-C11-C12 |
| 5- Oral examinations | - held by the end of the academic year. - The student is examined by 2 different professors to assess his knowledge in all branches of physiology that was studied. | A1-A2—A3-A4-A5-A6- B1-B2 |
| 6- Essay and presentation | | D1-D2-D3 |

Assessment Schedule

- Written Examination 50 % (125 Marks)
- Structured Oral 8 % (20 Marks)
- OSPE 8% (20 Marks)
- Midterm MCQ 16 % (40 Marks)
- Sheet 14% (35 Marks)
- Log book 2% (5 Marks)
- Essay and presentation 2% (5 Marks)

Total 100% (250 marks)

6 – List of References

- | | |
|-------------------------------------|--|
| 6.1- Course Notes | Staff member books & lecture notes |
| 6.2- Essential Books (Text Books) | a) Textbook of Medical Physiology (Guyton & Hall). b) Review of Medical Physiology (William F. Ganong). |
| 6.3- Recommended Books | Physiology (NMS) |
| 6.4- Periodicals, Web Sites, ...etc | http:// Advan. Physiology.org |

7 – Facilities Required for Teaching and Learning

- a) Lecture halls.
- b) Audiovisual facilities.
- c) Virtual Library including multimedia teaching facilities.
- d) Publishing facilities including: Printers, photocopy machines.
- e) well-equipped laboratories.
- f) Laboratory animals.

Course Coordinator : Dr. Mohammed Adel

Head of Department : Prof. dr. Sabry Mohammed Awad Gad

Mansoura University

Faculty of Medicine

Physiology Department



ثانية : توزيع درجات التحريري و ال

- MCQ للمنهج الدراسي

| | Relative Weight | Total | MCQ | Written |
|------------------------|-----------------|------------|-----------|-----------|
| Central nervous system | 28% | 45 | 20 | 25 |
| Kidney | 14% | 24 | 11 | 13 |
| Special senses | 14% | 24 | 12 | 12 |
| Metabolism | 12% | 19 | 9 | 10 |
| Digestive system | 14% | 24 | 14 | 10 |
| Endocrine | 18% | 29 | 14 | 15 |
| | 100% | 165 | 80 | 85 |

يس قسم الفسيولوجيا

أ.د/ هناء أحمد حسن عبد المنعم

Mansoura University

Faculty of Medicine

Department of Medical Physiology



Log Book

For

Undergraduate Students

OF

Physiology Course

2nd year

2016- 2017

Course Specification 2015/2016

For the Medical Physiology (second year)

Faculty : Medicine

Department : Medical Physiology

Course Specification

Programme(s) on which the course is given : M.B.B.Ch program

Department offering the course : Department of Medical Physiology

Academic year / level : 2nd year

Date of specification approval : 29/11/2015

A- Basic information

Title: Medical Physiology Code: PSL.2

Lecture: 150 Tutorial: Practical 60 Total: 210

B- Professional Information

1 - Overall Aims of Course

The overall aim of the course is to provide the students with the basic knowledge of physiology and develop several practical skills related to experimental work through training on several basic medical skills.

2 – Intended Learning Outcomes of Course (ILOs)

A - Knowledge and Understanding:

By the end of the course, students should be able to:

A1- Identify the different components of CNS and role of each

A2- Describe renal structure and explain functions of different parts of the nephron

A3-Identify endocrinal glands and identify their functions, their regulation and homeostatic roles, discuss male and female reproductive function

A4-Identify the special senses and explain the physiological anatomy of each sense

A5- Explain the types of metabolic reactions, thermogenesis, food intake and their alteration during muscular exercise

A6-Discuss different components of digestive system and its role in food ingestion, digestion, absorption and excretion

B- Intellectual Skills:

By the end of the course, students should be able to:

B1- Integrate facts about function of different organs sub serving the homeostasis.as
CNS, kidney, digestive system and endocrine gland

B2- Solve medical problems on pathophysiological bases related to diagnosis and
treatment of physiological problems as: PH disturbance, fluid and electrolytes
disturbances, fever, hypothermia and sensory disturbances

C-Professional and Practical Skills:

By the end of the course, students should be able to:

C1 Examine sensory function of CNS

C2 - Elicit tendon jerk

C3- Elicit superficial reflexes

C4- Demonstrate small intestinal motility in isolated small intestinal segment of rabbit

C5-Determine visual field

C6-Determine visual acuity

C7- Determine colour vision

C8- Elicit light reflex and general reflexes

C9- Examine hearing acuity

C10- Compute renal clearance to study the kidney function

C11- Measure body temperature

C12- Perform pregnancy test

D- General and Transferable Skills:

By the end of the course, students should be able to:

D1. Adopt principles of the lifelong learning needs of the medical profession.

D2 Present information clearly in written, electronic and oral forms

D3 Work effectively within a team



توزيع درجات التحريري وال MCQ للفرقة الثانية للمنهج الدراسي 2015/ 2016

| | Number of hours | Relative Weight | Total | M C Q | Written |
|------------------------|-----------------|-----------------|-------|-------|---------|
| Central nervous system | 40 | 35 % | 55 | 27 | 28 |
| Kidney | 18 | 14% | 24 | 11 | 13 |
| Special senses | 12 | 14% | 24 | 12 | 12 |
| Metabolism | 12 | 5 % | 9 | 2 | 7 |
| Digestive System | 18 | 14 % | 24 | 14 | 10 |
| Endocrine | 20 | 18 % | 29 | 14 | 15 |
| | | 100% | 165 | 80 | 85 |

رئيس قسم الفسيولوجيا

أ.د/ هناء أحمد حسن عبد المنعم

Recent Photo

Personal Data:

- **Name:**
- **Nationality:**
- **Address:**

- **Telephone:**
 - Home:*
 - Mobile:*
- **E-mail:**
- **Date of registration for Physiology Course:**
- **Section:**
- **Group:**
- **Section supervisors:**

PRACTICAL

SECTIONS

Experiment ()::

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MARKS

SIGNATURE OF SUPERVISOR

Presentation Date:

Supervisors:

1-

2-

3-

4-

Evaluation:

Signature of principle supervisor

Attendance Report

(Filled by the department)

- Number of sections attended:
- Number of sections missed:
- Total number of sections:
- Percentage of attendance (number of sections attended / total number):

Signature of attendance employee

Signature of principle supervisor

FINAL Practical Examination

Experiment:

Signature of Examiner:

FINAL REPORT

(Filled by the Supervisors)

| |
|---|
| 1 Attendance: <input type="checkbox"/> Above 85% <input type="checkbox"/> Below 85% |
| 2 Commitment Level: <input type="checkbox"/> Excellent <input type="checkbox"/> Satisfactory <input type="checkbox"/> Poor |
| 3 Mid-term Practical Examination: |
| 4 Essay: |
| 5 General Evaluation: <input type="checkbox"/> Excellent <input type="checkbox"/> Good <input type="checkbox"/> Average <input type="checkbox"/> Poor |
| <u>Written Conclusive Opinion (Optional):</u> |

Signature of principle supervisor