

Tanta University

April 2, 2016

Faculty of Medicine

Number of Questions: 3

Physical Medicine Department

Time Allowed: 90 minutes

Physical Medicine Written Exam Total Marks: 45 Marks

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*1<sup>st</sup> Part Diploma (physics Exam)*

All questions to be answered

1. Discuss biophysiological effect and clinical application of ultrasound.
  
2. Give an account on musculoskeletal indication and contraindication of laser therapy.
  
3. Discuss:
  - 1- Electroanalgesic current .
  - 2- Modulation of A.C current.

*Best wishes,*

Tanta University

Physical Medicine Written Exam

Faculty of Medicine

Number of Questions: 4

Physical Medicine Department

Time Allowed: 3 hours

April 17, 2016

Total Marks: 100 Marks

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*Diploma 2<sup>nd</sup> Part – 2<sup>nd</sup> Paper*

All questions to be answered

1. Discuss: Physical management of spasticity.
2. Give an account on: Shoe modifications for common foot problems.
3. Mention the electrodiagnosis of:
  - a) Carpal tunnel syndrome.
  - b) Tardy ulnar neuritis.
4. Give a short account on: Interferential current.

*Best wishes,*

Tanta University  
Faculty of Medicine

General Surgery Exam

دبلومالطب الطبيعي

Exam 19April 2016  
All questions to be answered

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1. What is differential diagnosis of unilateral swollen lower limb  
(10 degrees)
2. What are the causes and management of a case of torticollis  
(10 degrees)
3. Mention in short the rehabilitation of burned hand  
(10 degrees)
4. Discuss compartment syndrome of the leg  
(10 degrees)
5. Discuss factors affecting wound healing  
(10 degrees)

امتحان الشفوي والعملي يوم ٢٠١٥/٤/٢٠ بقسم الجراحة العامة بالمستشفى التعليمي الجديد الساعة الثامنة صباحا

Good luck

TANTA UNIVERSITY----- Internal Medicine Exam  
FACULTY OF MEDICINE -----Diploma degree of physical medicine  
INTERNAL MEDICINE DEPARTMENT-----NO. OF QUESTIONS: 3  
19/4/ 2016 ----- Time: 1.30



**All Questions must be answered :**

- 1- Etiology and diagnosis of heart failure.
- 2- Management of rheumatoid arthritis.
- 3- Clinical picture of hepatocellular failure.

Good Luck  
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Tanta University

Physical Medicine Written Exam

Faculty of Medicine

Number of Questions: 4

Physical Medicine Department

Time Allowed: 3 hours

April 12, 2016

Total Marks: 100 Marks

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*Diploma 2<sup>nd</sup> Part – 1<sup>st</sup> Paper*

All questions to be answered

1. Discuss: Treatment of antiphospholipid syndrome.
2. Give an account on: Rehabilitation program for osteoporosis in elderly patient.
3. Mention the extrinsic factors causing shoulder pain and how to reach diagnosis.
4. Classification criteria of SLE.

*Best wishes,*

Tanta University

April 6, 2016

Faculty of Medicine

Number of Questions: 3

Physical Medicine Department

Time Allowed: 90 minutes

Physical Medicine Written Exam Total Marks: 45 Marks

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**1<sup>st</sup> Part Diploma (Neurosurgery Exam)**

**All questions to be answered**

1. Discuss: Differential diagnosis of wasting of small muscles of the hand.
2. Discuss: Causes of foot drop.
3. Give an account on: Anatomy of radial nerve.

*Best wishes,*

Tanta University  
Faculty of Medicine  
Human Anatomy & Embryology Dep.  
3/4 /2016  
Time Allowed: 3 Hours

Diploma of Science in Physical Medicine,  
Rheumatology and Rehabilitation  
Anatomy Exam.  
Number of Questions: 5  
Total: 45 Marks



## **PHYSICAL MEDICINE, RHEUMATOLOGY & REHABILITATION**

**All questions to be answered**

**Illustrate your answer with diagram whenever possible:**

1. **Mention** the origin, insertion, nerve supply and action of the sternomastoid muscle. **Outline** its clinical anatomy. (9 marks)
2. **Discuss** the variety, articular cartilages, ligaments and movements of the radio-ulnar joints. (9 marks)
3. **Discuss** the ligaments and movements of the hip joint. **Enumerate** the muscles producing them. (9 marks)
4. **Enumerate** the fibres in the inferior cerebellar peduncle. (9 marks)
5. **Discuss** the deep origin, functional components and branches of the facial nerve. (9 marks)


**END OF THE EXAM**

**Oral Examination:**

On Sunday 10/ 4/ 2016 at 9.5 o'clock in the Anatomy Department  
(Second floor)

**WITH MY BEST WISHES**

Chairman of Department: Prof. Dr. Mona Zoair

Tanta University	Exam: Diploma (First Part)	
Faculty of Medicine	Physics & Clinical Measurements	
Anesthesia & SICU Dep.	No. of Questions: 4	
Date: 10 / 4 / 2016	Times allowed: 3 hours	
	Total marks: 100	

**1. Anesthesia circuit should maintain adequate anesthetic concentration, adequate oxygenation, and effective elimination of CO<sub>2</sub>.**

- A. Classify breathing circuits (2 marks)
- B. How can you test a leaky circuit? What are its hazards? (5 marks)
- C. Discuss methods of elimination of CO<sub>2</sub> from anesthesia circuits. (12 marks)
- D. Describe breathing circuit you would use for a 2-year-old child undergoing inguinal hernia repair? (6 marks)

**2. Tissue perfusion is dependent on pressure, resistance, and flow.**

- A. Define the flow and what is its unit? (2 marks)
- B. What are the differences between laminar and turbulent flow? Mention examples in clinical practice? (6 marks)
- C. Draw the graphs which indicate the relation between pressure and flow in laminar and turbulent flow? (4 marks)
- D. Explain the Hagen-Poiseuille equation? (3 marks)
- E. What is Reynolds number? How it is calculated and what is its significance? (4 marks)
- F. Explain the difference between the following two values of blood pressure; 80/60 mmHg and 80/30 mmHg (4 marks)
- G. What is the significance of pulmonary vascular resistance value of 180 dyn.s/cm<sup>5</sup> (2 marks)



**3. Capnography is not only used in anesthesia but also used in moderate to deep sedation, post-anesthesia care unit, emergency room, and in ICU settings.**

A. Outline the principles of measurement of carbon dioxide in anesthesia breathing system? (4 marks)

B. Draw, label, and discuss the normal and abnormal capnogram during anesthesia? (12 marks)

C. Outline methods of elimination of CO<sub>2</sub> from the anesthesia breathing circuits? (6 marks)

D. What is the clinical significance of progressively rising PaCO<sub>2</sub> values during isoflurane anesthesia? (3 marks)

**4. Safety in anesthesia practice should consider electrical safety in the operation room.**

A. Define the following terms: resistance, inductance, and capacitance? (3 marks)

B. What is the difference between macro-shock and micro-shock? (2 marks)

C. What are the effects of an electric current transmitted through the body? (2 marks)

D. What is the difference between unipolar and bipolar diathermy? (2 marks)

E. What are the safety precautions to prevent electrocution from a diathermy? (4 marks)

F. What are the safety precautions to prevent fire in the operation room? (12 marks)

.....GOOD LUCK



Tanta University  
Faculty of Medicine  
Department of Physiology.  
Examination for (Diploma Rheumatology & Rehabilitation )  
Course Title: Physiology  
Total Assessment Marks:45

Course Code:  
PRR 7001  
Time Allowed:  
Physio. + Bio.  
Three Hours

Date:3/4/2016

Term : Final

**All the questions are to be answered:-**

**Q1- State:** Factors maintaining the arterial blood pressure. Mention types and physiological basis of hypertension. (10 marks)

**Q2- Explain briefly:**

- a) Body temperature regulation and mechanism of fever. (10 marks)  
b) Neuromuscular transmission and its blockers. (5 marks)

**Case study:** A 35-year-old woman having an anxiety attack collapses. The EMT who arrives on the scene notes that she is hyperventilating and suspects that she is suffering from tetany, a continuous contraction of skeletal muscle fibers caused by an increase in the excitability of nerves and muscle membranes. The increased membrane excitability is caused by which of the following?

- a. Decreased release of inhibitory neurotransmitter from nerve terminals.  
b. Depolarization of the nerve and muscle membranes.  
c. Spontaneous release of calcium from the sarcoplasmic reticulum.  
d. Activation of sodium channels at more negative membrane potentials.  
e. Increased magnitude of the action potentials invading nerve terminals.

**Explain your answer (5 marks)**

**Answer the following MCQs by the most probable one choice: In answer sheet (15 marks)**

**Q.1. Anaemia due to exposure of bone marrow to gamma radiation is called:**

- a. Pernicious anaemia.  
b. Microcytic anaemia.  
c. Blood loss anaemia.  
d. Aplastic anaemia.

**Q.2. In chronic stage of cardiac failure retention of fluid is caused by the following mechanism EXCEPT:**

- a. Release of A.D.H.  
b. Release of aldosterone hormone.  
c. Sodium and water retention.

- d. Decrease of contractility of cardiac muscle.

**Q.3. In a pregnant female oedema of both lower limbs is due to EXCEPT:**

- a. Salt and water retention.  
b. Increased venous pressure in the lower limbs.  
c. Insufficient protein in the diet.  
d. Any of the above.

**Q.4. Hydrochloric acid secretion by parietal cells:**

- a. Requires dissociation of water with subsequent exchange of  $H^+$  with  $Na^+$ .

**LOOK IN THE BACK OF THIS PAGE**

- b.  $H^+$  is actively secreted into the canaliculus in exchange for  $K^+$ .
- c.  $Cl^-$  enters the parietal cell in exchange for  $Na^+$  ions.
- d. No energy is needed for this process.

**Q.5. Concerning bile and bile salts, all are true EXCEPT:**

- a. Bile salts are emulsifying agents.
- b. Bile is concentrated in the gall bladder.
- c. Bile salts promote lipid absorption by forming water soluble micells.
- d. Its secretion from the liver is intermittent.

**Q.6. In anaemic hypoxia:**

- a.  $PO_2$  in the blood is decreased.
- b. % saturation of haemoglobin is decreased.
- c. Amount of oxygen dissolved in plasma is decreased.
- d.  $O_2$  content of the blood is decreased.

**Q.7. In primary hyperthyroidism:**

- a. The thyroid gland may or may not be enlarged.
- b. There is a low pulse pressure.
- c. There is hypotonia.
- d. There is elevated serum TSH.

**Q.8. The primary esophageal peristalsis differs from the secondary peristalsis in that the former:**

- a. Occurs after the latter.
- b. Is independent of neural control.
- c. Is initiated by swallowing.
- d. Is confined to the upper part of the esophagus.

**Q.9. In Addison's disease:**

- a. There is excessive secretion of GH.
- b. A pituitary basophil adenoma may be present.
- c. The patient is mentally subnormal.
- d. There is excessive loss of  $Na^+$ .

**Q.10. In Cushing syndrome all the following feature are present EXCEPT:**

- a. Excess facial hair.
- b. Osteoporosis.
- c. Hypovolaemia.
- d. Hyperglycaemia.

**Q.11. Lungs which easily expand have:**

- a. Low compliance.
- b. High compliance.
- c. Low level of surfactant.
- d. Large number of collagen fibres.

**Q.12. In acute haemorrhage:**

- a. The main danger is due to loss of R.B.Cs.
- b. If the lost blood is more than 30% blood transfusion is not indicated.
- c. Blood coagulability decreases.
- d. Water moves from extravascular to intravascular compartment.

**Q.13. Hypovolemic shock becomes progressive and irreversible due to the following causes EXCEPT:**

- a. Failure of vasomotor centre.
- b. Cardiac depression.
- c. Decreased body temperature.
- d. Toxic myocardial factor (TMF) from ischemic tissue.

**Q.14. Venous return to the heart is facilitated by:**

- a. The amount of blood filling the circulatory system.
- b. The tone of sympathetic system on the veins.
- c. The negativity of the thoracic pressure.
- d. All of the above.

**Q.15. Alveolar ventilation per minute is equal to:**

- a.  $500 \times 4$  (ml/min).
- b.  $500 \times 6$  (ml/min).
- c.  $350 \times 14$  (ml/min).
- d.  $350 \times 6$  (ml/min).

Oral exam will be on Sunday 10 April 2016 at 9 am in physiology department.

TANTA UNIVERSITY----- Internal Medicine Exam  
FACULTY OF MEDICINE -----Diploma degree of physical medicine  
INTERNAL MEDICINE DEPARTMENT-----NO. OF QUESTIONS: 2  
5/4/, 2016 ----- Time: 1.30



**All Questions must be answered :**

- 1- Etiology and diagnosis of hyperthyroidism.
- 2- Management of peptic ulcer.
- 3- Management of heart failure.

Good Luck  
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