



<p>Tanta University Faculty of Medicine <b>Anesthesia, SICU&amp; Pain Medicine Dep.</b> Date: 25 / 3 /2021</p>	<p>Exam: MD - 1<sup>st</sup> part <b>Physiology</b> No. of Questions: 7 Time allowed: 3 hours Total marks: 45</p>	
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- 1- Regarding cerebral blood flow discuss:
  - normal and critical values. (5marks)
  - its regulation. (5marks)
- 2- Discuss different mechanisms of pain modulation? (5marks)
- 3- Discuss anticoagulation mechanisms (factors which prevents extension of coagulation)? (5marks)
- 4- Discuss lung zone and distribution of pulmonary perfusion? (5marks)
- 5- How does the body control of blood pressure? (5marks)
- 6- Regarding acid base balance:
  - A-give an account on physiological effect of acidemia. (5 marks)
  - B- Give an account on anion gap. (5marks)
- 7- Discuss physiology of neuromuscular transmission? (5 marks)

GOOG LUCK

<p style="text-align: center;">Tanta University Faculty of Medicine <b>Anesthesia, SICU&amp; Pain Medicine Dep.</b></p> <p>Date: 28 / 3 / 2021</p>	<p>Exam: MD - 1<sup>st</sup> part :</p> <p><b>Physics &amp; Clinical Measurements</b></p> <p>No. of Questions: 6</p> <p>Times allowed: 3 hours</p> <p>Total marks: 90</p>	
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**Question 1:**

**Artificial humidification of dry inspired gases is important in the context both of anesthesia and intensive care**

- A- What are the consequences of failure to humidify inspired gases? (5 marks)
- B- What is the principle of function of heat and moisture exchange humidifier & associated problems of its use? (5 marks)
- C- What is the principle of function of nebulizer & associated problems of its use? (5 marks)

**Question 2:**

**What are the potential sources of errors in interpreting readings of pulse oximeter? (15 marks)**

**Question 3:**

**What are the information's you can get from a capnograph trace? (20 marks)**

**Question 4:**

**The maintenance and control of body temperature are of evident importance in clinical anesthetic practice.**

- A-What are the mechanisms by which our bodies lose temperature under anesthesia? (10 M)
- B- What are the clinical effects of hypothermia? (10 marks)

**Question 5:**

**What are the complications of the intra-arterial measurement of blood pressure? (8M)**

**Question 6:**

**A flowmeter is a variable orifice, fixed pressure difference device, which gives a continuous indication of the rate of gas flow:** What are the physical principles which underlie the function of flowmeters? (12 marks)

GOOD LUCK