Tanta university faculty of Medicine	MD physic &measurement	
Anesthesia & SICU	Time allowed 3 hours	
Date13/5/2017	Total marks 100	

1- Invasive blood pressure measurement

a-Identify physical principle, source of error& how reduce it

b-Interpret arterial wave form (10marks)

2- Demonstrate advantages and disadvantages of low flow breathing systems and what are the safe guards you require when they are used (20marks)

**3--** Describe methods for measuring body temperature, sites of measurement and detail the physical principles involved

(20 marks)

4-Explain venturi principle and its application in general anaesethia (20marks)

5-Demonstrate measurement of intraoperative blood loss

(20 marks)

Good luck