

ELG2336 Test 2

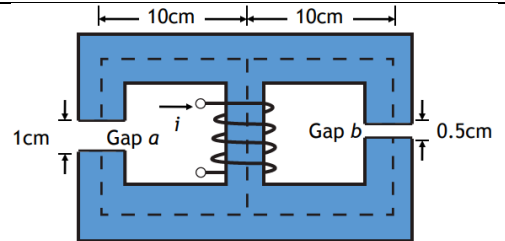
Name:

Number

Print and bring it to the classroom.

Question 1 (3 marks):

Design an experimental MRI for small animals as shown beside. You may use a cross section of 2 cm by 2 cm and relative permeability of . The coil has turns. Gap a should supply 0.1123 Tesla and Gap b should supply 0.2192 Tesla. Calculate the required current i .



What is MRI and how it works?

Question 2 (2 marks): What is the full-load speed of a 200 V shunt DC motor that requires a full-load current of 10 A. The armature resistance of the motor is 0.2Ω and the field resistance is 120Ω . At no load the motor takes 2 A to run a speed of 1500 rpm.