BRAC UNIVERSITY
Inspiring Excellence

PHY 112 FALL 2025 Assignment 2

Please write your name, ID and section below. Answer ALL questions in the spaces provided.

NAME, ID AND SECTION: _____

1. (25 marks) The rectangular loop shown in Figure 1 is pivoted about the y-axis and carries a current of 15.0 A in the direction indicated.

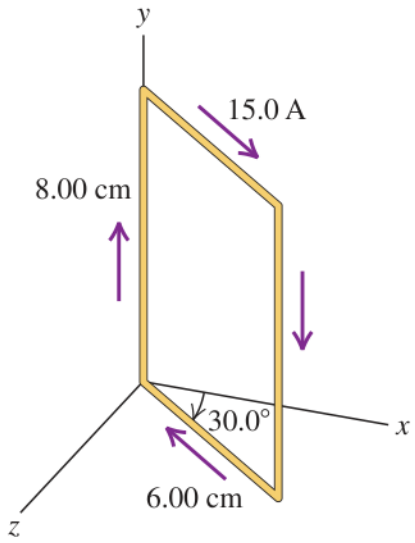

Figure 1: Figure for question 1

(a) (7 marks) If the loop is in a uniform magnetic field with magnitude 0.48T in the positive x-direction, find the magnitude and direction of the torque required to hold the loop in the position shown.

(b) (7 marks) Repeat part (a) for the case in which the field is in the negative z-direction.

(c) (6 marks) For each of the above magnetic fields, what torque would be required if the loop were pivoted about an axis through its center, parallel to the y-axis? Explain.