

# PHYS 301

## HOMEWORK #7

Due : 25 Oct. 2012

1. Starting with the text's equations 3.28 and 3.29, complete the algebraic steps to derive equations 3.30 and 3.31
2. In the limit that  $\mu_B/kT \ll 1$ , use appropriate series expansions to show that eq. 3.35 follows from eq. 3.32.
3. Problem 3.25 parts a) - d). 10 pts for b), 5 pts for each of a), c), d).
4. Problem 3.32 (all parts; each part 5 pts).
5. Problem 3.36 both parts. 5 pts a), 10 pts b).