

Final Exam

Name:

PID:

Lab section: (circle one)

W 10:30 am

W 4:30 pm

Th 7:30 am

Th 10:30 am

Th 1:30 pm

M 1:30 pm

F 10:30 am

F 1:30 pm

$$\oint E \cdot dA = \frac{Q_{enc}}{\epsilon_0}$$

$$\oint E \cdot dS = -\frac{d\Phi_E}{dt}$$

$$\oint B \cdot dS = \mu_0 I + \mu_0 \epsilon_0 \frac{d\Phi_E}{dt}$$

$$\vec{E} = -\vec{\nabla}V \quad \vec{F} = \frac{1}{4\pi\epsilon_0} \frac{q_1 q_2}{r^2} \hat{r}$$

In capacitors, $Q = CV$, where C is the capacitance

$$\vec{F} = q\vec{E}$$

$$\vec{F} = q\vec{v} \times \vec{B}$$

$$\vec{F} = I\vec{L} \times \vec{B}$$

$$\mu_0 = 4\pi \times 10^{-7} Tm / A$$

$$dB = \frac{\mu_0 I}{4\pi} \frac{dS \times \hat{r}}{r^2}$$

$$Z_c = \frac{1}{i\omega C}$$

$$Z_L = i\omega L$$

$$Z_R = R$$

Magnitude of a complex number, $a+ib$, is $(a^2+b^2)^{1/2}$.

1

2

3

4

5

6

7

8

Total: