

## **Textbook Suggestions for the Part II General Exam in Physics**

Part II of the General Exam in Physics tests a student's knowledge in four specific areas:

- Classical Mechanics
- Electromagnetism
- Quantum Mechanics
- Statistical Mechanics

It does so at a level comparable to our advanced undergraduate or first-year graduate subjects: 8.09 for classical mechanics (or 8.351J, which includes a fuller treatment of Hamiltonian mechanics, perturbation theory, and chaos), 8.07 for electromagnetism, 8.321 for quantum mechanics, and 8.333 for statistical mechanics. To pass the exam, one must demonstrate good knowledge and ability in all four areas; it is not enough to have strong scores in three areas if one of the areas displays weakness.

Most students study for the exam by reviewing the textbooks and class notes from the subjects listed above or their equivalents. The following books cover all the material that is likely to be tested on Part II.

### **Classical Mechanics**

*Classical Mechanics*, 3rd edition, by Goldstein, Poole, & Safko  
(Prentice Hall, 2002)

### **Electromagnetism**

*Introduction to Electrodynamics*, 3<sup>rd</sup> edition, by David J. Griffiths  
(Prentice Hall, 1999)

### **Quantum Mechanics**

*Modern Quantum Mechanics*, Revised Edition, by J. J. Sakurai  
(Addison Wesley, 1994)

### **Statistical Mechanics**

*Statistical Mechanics*, 2<sup>nd</sup> edition, by K. Huang (J. Wiley, 1987)  
*Statistical Mechanics*, 2<sup>nd</sup> edition, by R.K. Pathria (Butterworth-Heinemann, 1996)

*Statistical Mechanics*, by S.-K. Ma (World Scientific, 1985)