

Quantum Condensed Matter Tripos Questions

Summary

May 10, 2005

Please note that these questions only cover the intersection of the old syllabus with the current and thus should only be used as a guide. The topics do NOT necessarily reflect our current emphasis. Please refer to schedules for more balanced distribution. All questions are from Paper 2 of the given year.

1 Band theory

1.1 Nearly free electrons

2004 C13; 2002 B10 a); 2001 B10; 2000 A2; 1999 B10 a), C14; 1998 A2, B7, C11; 1997 B7, C12.

1.2 Other

2003 A2, A6, B10; 2002 A3, 2000 C11, 1999 A5.

2 Properties of materials

2004 A4, B10; 2003 A5, A6; 2000 A1, B8, 1999 A1, 1997 A4.

3 Semi-conductors

3.1 Properties of electron/holes

2004 C14, 2003 B9 c), C14; 2002 A4, B10 b), 2001 A3, B9 a), C13, 2000 B7 a); 1998 B8 c).

3.2 Devices

2004 A3, B9 c); 2002 B9, C14; 2001 B9 b)+c); 2000 B7 b); 1999 B9, B10 c); 1998 A1, C12.

4 Miscellaneous topics

2000 C12.