Which Past Paper Questions are on the Syllabus Now?

Condensed Matter Papers 2011 and thereafter. All on Syllabus

B Paper 2010

Q1. On Syllabus. End of part d is tricky and was not really covered, but could be deduced by a perceptive student.

Q 2,3,4,5. On Syllabus.

Q6. Mostly not on syllabus. The students should be able to deduce the density of states of a 2d electron gas.

Q7,8 Not on syllabus

B Paper 2009.

Q1. On syllabus. This question is solved in great detail in my lecture notes (note also there is an error in the height of data point e of the plot. Discussed in the book)

Q2,3. On syllabus.

Q4. On syllabus. We did not explicitly discuss part (c) but a clever student should be able to figure it out.

Q5. Not on syllabus

Q6. As with Q6 of 2010, this is mostly not on syllabus. Students should be able to derive 1d density of states.

Q7,8 Not on syllabus

B Paper 2008

Q1,2,3,4. On syllabus.

Q5. On syllabus – Except the piece about superconductors.

Q6,7 Not on syllabus

Q8. As with Q6 of 2010, 2009, this is mostly not on syllabus.The students should be able to derive the density of states in 2d.

B Paper 2007

Q1,2,3,4. On syllabus

Q5, 6,7 Not on syllabus

B Paper 2006

Q1,2,3,4. On syllabus

Q5,6,7,8 Not on syllabus

B Paper 2005

Q1. Part (a) is off syllabus. Part b is on syllabus. Part d and e are on syllabus. Part c - good students might get this, but we restricted our attention to cubic structures when discussing diffraction.

Q2. On syllabus. We discussed the last part in lecture (which according to the examiner report was not successfully answered by any student).

Q3. On syllabus.

Q4. On syllabus. The first half was assigned as a homework problem. Note there is a typo in the formula given in brackets at the end.

Q5. On syllabus.

Q6-8 Not on syllabus

B Paper 2004

Q1,2,3,4 On Syllabus

Q5-8 Not on syllabus

THE OLDER SYLLABUS

A4 2003

Q1,2 On syllabus

Q3. On syllabus. Last part about electron-electron is not entirely on syllabus (but might be able to say something about it)

Q4,5 On syllabus

Q6. Quenching is not likely to be examined. Hund's rule is examinable (that is the last part) but not remotely in this detail. We did not discuss spectroscopic notation (maybe you did in the atomic physics course). You would need to know that for Fe and Mn, L is quenched so that J=S only.

Q7. Not on syllabus

Q8. On syllabus except (e)

A4. 2002

Q1. On syllabus except last part about superconductivity.

Q2,3,4,5,6. On syllabus

Q7. Only first part is on syllabus.

Q8. not on syllabus

A4. 2001

Q1,2,3,4,5

Q6. First part is on syllabus, except last part. 2nd part about quenching is not likely to be examined. Third part is advanced, but if you know spectroscopic notation and you know the formula for the Lande g-factor you would be able to do it

Q7,8 not on syllabus

A4. 2000

Q1,2 On syllabus

Q3. Only first two parts are on syllabus (last part is superconductivity)

Q4,5. On syllabus.

Q6. Parts (b) and (e) are not on the syllabus

Q7,8 Not on syllabus

A4. 1999

Q,2,3,4. On syllabus

Q5. On syllabus except last part, quenching is not likely to be examined

Q6. Part c is not on the syllabus

Q7,8 not on syllabus

A4. 1998

Q1. Parts c and d are not on the syllabus. In part a we mainly focused on powder diffraction (although the others methods were mentioned too).

Q2,3,4,5. On syllabus

Q6. On syllabus except quenching not likely to be examined

Q7,8 not on syllabus

A4. 1997

Q1,2. On syllabus

Q3. Mostly not on the syllabus

Q4. On syllabus

Q5. Only first two parts on syllabus

Q6. On syllabus

Q7. Parts a and b on syllabus. Part c is quenching – not likely to be examined

Q8. Not on syllabus

A4. 1996

Q1,2,3 On Syllabus

Q4. Last part not on syllabus

Q5,6. On syllabus

Q7. Only part d on syllabus