

- (b) How does the response of delocalized valence electrons in metal differ from that of open-shell ions? Why? (1 p)

5. *Spontaneous magnetism, band model*

- (a) What is the reason for ferromagnetism in a free electron gas? (2 p)
- (b) Which are the competing effects in the Stoner model determining whether or not a metal is ferromagnetic? (2 p)
- (c) How can the Stoner model be generalized to predict the temperature dependence of the magnetism? Which predicted features are in agreement and which in disagreement with experiments? What are the reasons for the deviations? (3 p)