

UNIVERSITY OF LONDON
NEUROSCIENCE MSc EXAMINATION

**For Internal Students of the
INSTITUTE OF PSYCHIATRY
King's College London**

11th February 2011 at 09:00 - 11:30

PAPER A2

Answer FOUR questions only

1. In what theoretical and practical ways do genetic linkage and association differ?
2. How has the human genome project changed the way we can study psychiatric disease?
3. Discuss how neuronal activity may play different roles during synapse formation and pruning at the neuro-muscular junction.
4. Describe three different ways of determining whether a cell is a stem cell.
5. Discuss the role of retinoic acid signalling in brain patterning.
6. Describe an example of distributed representation in neural networks.
7. Different hippocampal subregions are believed to exert distinct functions. Discuss the functions of one of these subregions.
8. What is Hebb's postulate? Discuss whether or not long-term potentiation (LTP) is in agreement with Hebb's postulate.
9. How do systemic infection and inflammation exacerbate the symptoms and drive the progression of neurodegenerative disorders such as Alzheimer's disease?
10. Give a brief outline of the key features of chronic relapsing experimental allergic encephalomyelitis (CREAE), and discuss what biological factors may produce the relapsing-remitting time-course of the condition.