

**UNIVERSITY OF LONDON**  
**NEUROSCIENCE MSc EXAMINATION**

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

**8<sup>th</sup> March 2010 10:00 am - 12:30 pm**

**Addiction Biology**

**PAPER B2**

**Answer FOUR questions only**

1. Discuss the standard measures of alcohol/ substance use behaviour. How are these measures associated with neuropsychological functioning? Discuss association models including possible mediating and moderating factors.
2. Describe two major animal models of reinstatement of drug-seeking and drug-taking. How have these models contributed to our understanding of drug addiction in humans?
3. Explain how alcohol interferes with glutamatergic transmission and how this leads to withdrawal symptoms.
4. Discuss the role of the neurotransmitter dopamine in the establishment and maintenance of drug addiction.
5. Select one candidate gene for addiction and explain how research findings on this gene have contributed to our understanding of addiction.
6. Compare and contrast the effect of prenatal exposure to nicotine, alcohol and cannabis on brain development.
7. Describe the main neuroimaging techniques that have been used to study addiction in humans and the insights they can provide.
8. Why is the characterisation of intermediate phenotypes a useful strategy for genetic analysis of substance use disorders?