

NEUROSCIENCE MSc EXAMINATION

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

8th March 2012 10:00 - 12:30

PAPER B1 Behavioural Genetics

Answer **FOUR** questions only

1. Describe why data of monozygotic (MZ) and dizygotic (DZ) twin pairs allow us to estimate genetic and environmental components.
2. Genome-wide association studies in major depressive disorder have failed to identify genes associated with the disorder. Discuss the reasons for this. What strategies can be used to identify genes contributing to depression?
3. Why and how are researchers investigating cognitive and brain endophenotypes in neurodevelopmental disorders? Illustrate with examples from research on attention deficit hyperactivity disorder.
4. Discuss one current cognitive theory of autism, including key experimental evidence, strengths and limitations, and implications for understanding autism at the neural and/or genetic level.
5. What mental health problems commonly coexist with Attention Deficit Hyperactivity Disorder (ADHD)? Discuss the genetic and environmental influences that may lead to their coexistence.
6. Using examples from molecular and behavioural genetic approaches, discuss the evidence for cognitive biases in anxiety having a genetic component.
7. Discuss why it is important to investigate the nature and nurture of psychological wellbeing.
8. Describe the evidence supporting a role for epigenetic processes in the aetiology of psychiatric disease.