

KING'S COLLEGE LONDON
INSTITUTE OF PSYCHIATRY
MSc NEUROSCIENCE EXAMINATION
12th March 2014 at 14.00-16.30pm
Psychiatric Genetics
B1 WRITTEN EXAMINATION

Answer FOUR questions only

1. Briefly describe 4 types of genetic variation. In what ways can DNA sequence variation have a functional effect?
2. State two main approaches for studying DNA methylation and explain one of the approaches in detail including its advantages and limitations.
3. Genetic studies for addictive disorders have produced mixed results so far. Briefly discuss the reasons for the lack of conclusive results and the methods being used to produce robustness.
4. How can the imaging genetics approach improve our understanding of the neurobiological basis of psychiatric illnesses? Define the main rationale behind the approach and some of its advantages and limitations.
5. Provide an overview of omics technologies, types of omics data and bioinformatics methods related to omics.
6. Using examples, discuss the evidence for gene-environment interactions in anxiety and depression.
7. Discuss evidence that both common and rare genetic variants contribute to schizophrenia susceptibility.
8. How can human cell models inform our understanding of psychiatric illnesses?