

NEUROSCIENCE MSc EXAMINATION

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

8th March 2012 10:00 - 12:30

PAPER B7 Cognitive Neuroscience

Answer **FOUR** questions only

1. What does the functional anatomy of the striatum and its connections tell us about its possible role in cognition? What role(s) might dopamine play? (Brown)

brain areas mediate cognitive control?
2. What is the Default Mode Network of the resting brain and what is its function? Elena Antonova
3. Describe the main research approaches used to examine the influence of sex hormones in sexually-dimorphic cognitive functions. KUMARI
4. Are there personality effects in brain response to cognitive demands? If so, what implications do they have for fMRI studies? KUMARI
5. The link between dopamine and working memory has been described as an inverted-U shaped function - too much or too little prefrontal dopamine impairs performance. Design a study to test a new dopaminergic treatment for working memory deficits in schizophrenia that takes the inverted-U shaped model into account. Provide clear reasoning for each of your decisions. MEHTA MITUL
6. How has the study of defensive reactions contributed to our understanding of anxiety? PERKINS
7. Describe the neural abnormalities associated with abnormal facial emotion processing in depression or bipolar disorder. Simon Surguladze