SECOND PUBLIC EXAMINATION

Honour School of Experimental Psychology,
Honour School of Psychology, Philosophy and Linguistics

TRINITY TERM 2019

Thursday 13 June 2019, 09.30 am – 12.30 pm

Neuroanatomy Related to the Brain Networks of Cognition

Answer THREE questions

Start each question in a new booklet

Write your CANDIDATE NUMBER and NOT YOUR NAME on each answer book.
Write the numbers of all the questions you have answered on the front of your first answer book

Do NOT turn over until you are told that you may do so
1. How have studies in animal models and neuroimaging in humans helped to elucidate the roles of the thalamus and retrosplenial cortex when processing spatial information?

2. In relation to schizophrenia, discuss how thalamo-cortical theories about forward modelling and predictive signalling may help to explain some of the cognitive deficits of the disease.

3. Which brain regions have been linked to the non-motor deficits in Parkinson’s disease? How do current treatment options for Parkinson’s disease alleviate or exacerbate these non-motor deficits?

4. How do interactions between the cortex and mediodorsal thalamus support EITHER learning and updating of information OR adaptive decision-making, in mammals?

5. Explain how the impact of chronic alcohol consumption or poor diet can cause Korsakoff’s syndrome. Use evidence from animal and human studies in your answer.

6. Compare and contrast the cognitive differences in behavioural variant fronto-temporal dementia (bvFTD) and one other dementia (e.g. Alzheimer’s disease or semantic dementia). Please refer to the different underlying brain regions associated with these cognitive functions in your answer.