

Ollscoil na hEireann, Gaillimh
NATIONAL UNIVERSITY OF IRELAND, GALWAY

THIRD ARTS PSYCHOLOGY AND VISITING STUDENTS
SEMESTER 1 EXAMINATION 2003-2004

PS319 Behavioural Neuroscience (5 ECTS)

Time allowed: Two hours

Dr. Ray Fuller
Professor Jack E. James
Ms. Anne Marie Keane

Candidates are requested to answer *two* of the following questions.

1. Provide a detailed account of the structure and functions of the cerebral cortex in humans, placing a particular emphasis on the consequences of damage to various regions.
2. Neuroscientific studies of memory have permitted us to elaborate a model of the specific neural circuits and systems that enable the learning and retention of specific forms of knowledge. Consider this statement with reference to specific research studies.
3. Normal humans show many forms of cognitive specialisation of the cerebral hemispheres, although these specialisations are not as striking as those shown by split-brain individuals. Amplify this statement.
4. "Even though current evidence about the brain organisation of language functions has gone much beyond the classic models, these models still influence modern-day thinking to a great degree, and the terms and concepts developed in the history of aphasia research are crucial to our understanding of current ideas and concepts about representation of language in the brain" (Gazzaniga, 2002). Discuss.
5. Drawing on relevant empirical research, consider current evidence for the postulated role of long-term potentiation in memory at both the cellular and behavioural level.