

國立中正大學九十八學年度博士班招生考試試題

系所別 (組別)：心理學系

科目：生理心理學

每題題分不同，請依序作答並掌握答題時間分配。

1. 請描述：
 - (a) 如何才能觀察到 LTP (long term potentiation) 現象(15 分)
 - (b) LTP 現象的生理機制，以及 NMDA receptor 在此機制中扮演的角色 (15 分)
2. In studying visual perception, one fundamental and important idea is the notion of **receptive field** and the other is **visual pathway**. For this question, please explain (a) the basic idea of receptive field, (b) describe the characteristics and properties of receptive fields of, respectively, retinal ganglion cells, lateral geniculate nucleus (LGN), primary visual cortex (simple cells, complex cells, and end-stopped cells), and extrastriate cortex, and (c) the four visual pathways for processing color, form (shape), stereopsis, and motion, according to Livingstone and Hubel work in 1980's. (30 分)
3. 請說明為什麼神經細胞的研究資料，可以用來解釋心理行為現象。(20 分)
4. 吃飽睡，睡飽吃，飲食與睡眠行為的神經控制有什麼解剖上共通之處？(20 分)