

考試科目	知覺與生理 心理學	系所別	心理學系/實驗 心理學	考試時間	2月18日(六) 第四節
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一、選擇題：(2% x 10 = 20%)

1. The main interest for physiological psychologist is to study the ___ mechanism of behavior.

- (a) renal (b) cardiovascular (c) respiratory (d) brain

2. forebrain : hindbrain = _____ : _____

- (a) thalamus : cerebellum (b) basal ganglia : pons (c) hypothalamus : pons
(d) all above (e) none of above

3. When a drug becomes more and more effective in the chronic use, which of the following terms is associated to the phenomenon?

- (a) withdrawal (b) sensitization (c) habituation (d) tolerance

4. Which of the following neurotransmitters is released in the neuromuscular junction?

- (a) serotonin (b) GABA (c) acetylcholine (d) norepinephrine

5. The neurochemical condition of _____ is most likely associated to the schizophrenia.

- (a) too much norepinephrine (b) short of norepinephrine
(c) too much dopamine (d) short of dopamine

6. The melatonin would be _____ during the sleep as compared to the waking state?.

- (a) increased (b) decreased (c) no change

7. Which of the followings could be the biological function of sleep

- (a) energy reservation (b) body restoration (c) predator avoidance
(d) none of above (e) all of above

8. Which of the following nucleus being lesioned would impair the spatial memory in the rat?

- (a) striatum (b) amygdala (c) hippocampus (d) neocortex

備

註

- 一、作答於試題上者，不予計分。
二、試題請隨卷繳交。

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9. Which of the following emotional response in people is different between the modern society and the isolated/non-literate group?

- (a) happiness (b) fear (c) anger (d) disgust

10. When NMDA receptor activated by a large Ca^{++} influx, which of the following protein kinases would be activated?

- (a) CREB (b) CaMK II (c) PKC (d) all above

二、解釋名詞：(5% x 4 = 20%)

1. neurotransmitter vs. neuropeptide
2. stress hormones
3. delay-non-matching-to-the-sample task
4. self-administration of drug

三、問答題

1. 為何生理心理學研究或行為神經科學研究需要進行動物實驗？另外，試舉例任何一項動物行為模式 (animal behavior model) 及其相關研究的實驗證據。(10%)
2. 何謂視覺的盲點(blind spot)？用什麼方式可以觀察到盲點的存在？可利用盲點探討何種視覺現象？(10%)
3. 根據視皮質 V1 的結構與反應特性，對於視野當中的某個物體，在 V1 層次的視覺表徵(representation)較接近於 specificity coding 或 distributed coding？為什麼？(10%)
4. "紅花需要綠葉襯"，從顏色知覺的角度，如何解釋紅花在綠葉的陪襯之下更為鮮紅？又從視覺注意力的角度，在一堆綠葉當中的一朵紅花，為何較易吸引注意力？(10%)
5. 鏡像神經元(mirror neurons)有何基本反應特性？鏡像神經元對於個體的知覺能力具有什麼作用或幫助？(10%)
6. 何謂 tonotopic map？在耳蝸(cochlea)所發現的 tonotopic map，為何是 Békésy's Place Theory of Hearing 的一個證據？(10%)

備註

- 一、作答於試題上者，不予計分。
- 二、試題請隨卷繳交。