

考試科目	知覺與生理心理學	系所別	心理學系/實驗與發展組	考試時間	2月2日(五)第四節
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(一) 問答題：(10% × 6 = 60%)

一、嚴格而言，所有的知覺皆為間接知覺 (indirect perception)，為什麼？試從知覺的表徵 (representation) 加以論述。(10%)

二、人類視覺具有多種知覺恆常性，試舉出一項恆常性，說明其現象、處理機制及其在知覺上的重要貢獻。(10%)

三、閱讀網頁時，常會受到其他突顯但無關的廣告所干擾，在下列兩種情況中，何者較能不受干擾？

(A) 專心地在相似度很高的大量藥品名稱中搜尋目標藥品。

(B) 專心地在大量灰色商品中搜尋紅色的目標商品。

選出答案，並根據相關理論說明理由。(10%)

四、駕駛員開車在路上行進，眼前景物不停地變化著，這時，知覺與行動 (action) 兩者具有何種關係？試從光流 (optic flow) 的角度加以論述。(10%)

五、在山上，若閉上眼睛，安靜地聽著，可聽到滿山滿谷的鳥叫蟲鳴，而這些聲音的音源位置皆可以粗略地定位 (localization)。聽覺系統是如何辦到這件事的？試從各種定位線索加以論述。(10%)

六、試述人類與其它哺乳類動物日夜交替作息 (circadian rhythm) 行為的神經機制，包含分子細胞調控的實驗證據。(10%)

備註	<p>一、作答於試題上者，不予計分。</p> <p>二、試題請隨卷繳交。</p>
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(二) 選擇題：(2% x 10 = 20%)

- Nowadays, physiological psychology is also known as _____.
 - behavioral neuroscience
 - molecular psychiatry
 - cognitive therapy
 - artificial intelligence
- Which of the following areas is located in the forebrain?
 - thalamus
 - hypothalamus
 - basal ganglia
 - all above
 - none of above
- The salutatory conduction is observed or measured in _____.
 - the dendrite
 - the myelinated axon
 - the soma
 - the non-myelinated axon
- Which of the following brain structures is related the regulation of hormones?
 - thalamus
 - pituitary gland
 - basal ganglia
 - insula
- Lesion of _____ produces aphagia and/or adipsia in the rat.
 - Broca area
 - lateral thalamus
 - Wernicke area
 - lateral hypothalamus
- Stimulation of the reticular formation of the pons _____ in the cat.
 - increases the arousal
 - decreases the arousal
 - increases eye-blinking reflex
 - decreases eye-blinking reflex
- The blood level of _____, most likely, is lower in the depressant patient as compared to the healthy control subjects.
 - norepinephrine
 - serotonin
 - dopamine
 - GABA
- Which of the following pharmacological mechanisms is associated to the anti-anxiety (anxiolytic) drug?
 - serotonin agonist
 - serotonin antagonist
 - GABA agonist
 - GABA antagonist

備

註

- 作答於試題上者，不予計分。
- 試題請隨卷繳交。

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9. For a rat to learn a water maze, which of the following areas is the most critical in the acquisition of this behavioral task?

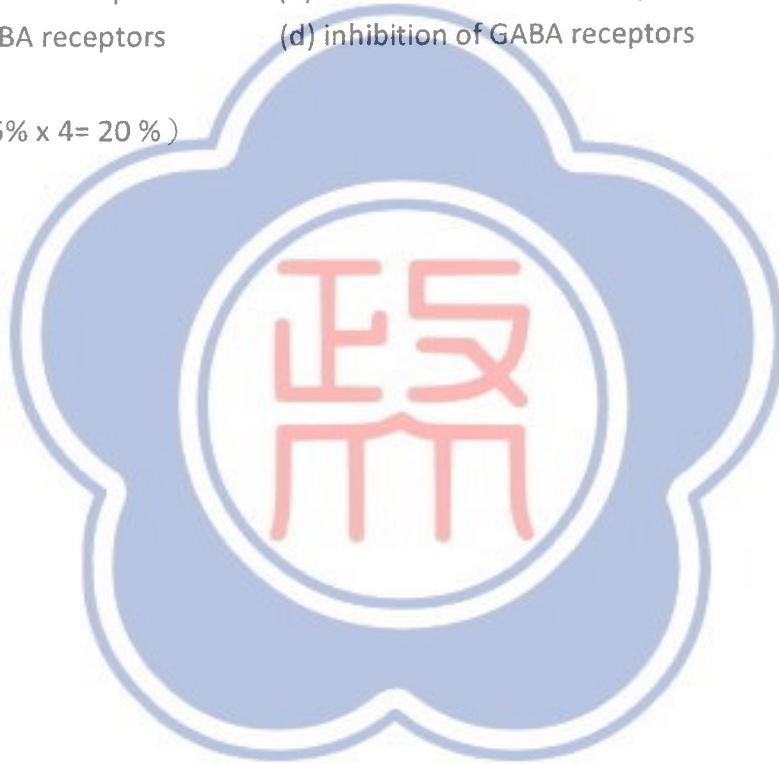
- (a) striatum (b) amygdala (c) hippocampus (d) neocortex

10. The development of long term potentiation (LTP) mainly requires the _____ during the experiment *in vitro* or *in vivo*?

- (a) activation of NMDA receptors (b) inhibition of NMDA receptors
(c) activation of GABA receptors (d) inhibition of GABA receptors

(三)、解釋名詞：(5% x 4= 20%)

1. epigenetics
2. action potential
3. glutamate
4. mirror neurons



備註

- 一、作答於試題上者，不予計分。
- 二、試題請隨卷繳交。