

一、針對下列每一名詞或現象：(50分)

(一) 以實驗或實例說明 (每題 4 分)。

(二) 闡述一相關理論 (每題 4 分，第 6 題 6 分)。

- 1、Semantic priming
- 2、Selective attention
- 3、Flashbulb memory
- 4、Basic-level category
- 5、Functional fixedness
- 6、Word-superiority effect

二、請說明情緒的神經控制機制。(10分)

(答題的內容佔 5 分，答題的寫作邏輯佔 5 分)。

三、請說明神經藥物如何影響神經突觸的運作而導致行為上的最後影響？(10分)

(答題的內容佔 5 分，答題的寫作邏輯佔 5 分)。

四、本題共計 30 分，請看完整個題目作答要求之後才開始作答。

以下文章有四個段落(甲、乙、丙、丁)，共 22 個句子，但順序不合邏輯。

(一)、請使用句子編號將各段落的句子依寫作邏輯把順序排列出來

(每段落各佔 2 分)。

(二)、排好句子順序之後，請使用段落編號，把本文合邏輯的段落順序排列出來(5 分)。

(三)、請把你/妳對句子與段落邏輯順序的判斷理由，在壹、貳題答案之後提出說明(句子順序的說明理由各佔 3 分，段落的說明理由佔 5 分)。

甲：

- 1、In several places the barrier is relatively permeable, allowing substances that are excluded elsewhere to cross freely.
- 2、The blood-brain barrier is not uniform throughout the nervous system.
- 3、If the organism is lucky, the poison can be expelled from the stomach before it causes too much damage.
- 4、The blood-brain barrier is much weaker there, permitting neurons in this region to detect the presence of toxic substances in the blood.
- 5、For example, the area postrema is a part of the brain that controls vomiting.
- 6、A poison that enters the circulatory system from the stomach can thus stimulate this area to initiate vomiting.

乙：

- 7、For example, glucose transporters bring the brain its fuel, and other transporters rid the brain of toxic waste products.
- 8、Thus, it is selectively permeable.
- 9、Thus, the walls of the capillaries in the brain constitute the blood-brain barrier.
- 10、In most of the body the cells that line the capillaries do not fit together absolutely tightly.
- 11、Small gaps are found between them that permit the free exchange of most substances between the blood plasma and the fluid outside the capillaries that surrounds the cells of the body. In the central nervous system the capillaries lack these gaps, and therefore many substances cannot leave the blood.
- 12、Some substances can cross the blood-brain barrier; others cannot.
- 13、Other substances must be actively transported through the capillary walls by special proteins.

丙：

- 14、However, if the same dye is injected into the fluid-filled ventricles of the brain, the blue color will spread throughout the CNS.
- 15、Over one hundred years ago, Paul Ehrlich discovered that if a blue dye is injected into an animal's bloodstream, all tissues except the brain and spinal cord will be tinted blue.
- 16、This experiment demonstrates that a barrier exists between the blood and the fluid that surrounds the cells of the brain-the blood-brain barrier.

丁：

- 17、The blood-brain barrier prevents these chemicals from reaching the brain.
- 18、As we will see, transmission of messages from place to place in the brain depends on a delicate balance between substances within neurons and in the extracellular fluid that surrounds them.
- 19、What is the function of the blood-brain barrier?
- 20、The presence of the blood-brain barrier makes it easier to regulate the composition of this fluid.
- 21、If the composition of the extracellular fluid is changed even slightly, the transmission of these messages will be disrupted.
- 22、In addition, many of the foods that we eat contain chemicals that would interfere with the transmission of information between neurons.