

Quiz 2 SE367: Intro to Cognitive Science Solution

Name: _____

4 Aug. Total Marks = 25, Time = 20 min

1. Neurophilosophy - Rodolfo Llinas. [3+2+2]

- (a) Fill in the blanks in this passage.

And what is it that the brain basically does ultimately in all of us? What it does is generate premotor acts, inside it generates premotor events, all that we can do as human beings with our brain is activation of motor neurons, that is the only output. I tell my students you only activate muscles or you activate **glands**. To put it differently, you either **move** or **drool**, that's all you can do in life.

- (a) Llinas suggests that most organisms are driven by the reward they obtain for their actions. [Give a one sentence elaboration]

Ans : Llinas disagree. Organism do things because they have no choice.[Free Will]

- (a) What happens to Llinas when he applied TMS at the top of his head? [Circle ALL answers that are TRUE]

- i. **his right foot moved inwards**
- ii. his left foot moved outwards
- iii. when he willed it to move the other way, it would not move at all.
- iv. he had the feeling that someone was moving his foot
- v. **he had the feeling that he himself was moving his foot**

2. : Frontal Lobe history. [4×2 = 8]

- (b) During the 1830s and 1840s, the brain was sometimes seen as being as **Undifferentiated / Uniform / Unifunctional** as the liver. Indeed, the great physiologist Flourens had said, "The brain secretes thought as the liver secretes bile."

- (b) After Phineas Gage's accident

It seemed that a sort of **Disinhibition/ Uninhibition / Release from Inhibition/ Unblocking** had occurred with the frontal lobe injury, releasing something animal-like or child-like, so that Gage now became a slave of his immediate whims and impulses.

- (b) In the 1870s, David Ferrier removed the frontal lobes of some monkeys. He observed that after this, they became [Circle ALL answers that are TRUE]

- i. more prone to violence
- ii. **disinterested**
- iii. **slept more than usual**
- iv. open to opportunities for mischief

- (b) Egas Moniz won the Nobel Prize for his work on removing the frontal lobes to calm down mental patients. Some years later, a patient did this to him. **Shot him in the spine and he was partially paralyzed.**

3. General [3x1=3]

- (c) The epiphenomenalist position is supported by the experiments of Libet. [**True** / False]

- (c) All through the cortical sheet, the mammalian cortex has **6 (Six)** distinct layers

- (c) Name an organism which initially has a nervous system, but then loses it and remains fixed to a spot. **Tunicate or Sea squirt.**

4. . Brain: On the image overleaf, mark seven of these eight items: the four lobes, motor cortex M1, sensory cortex S1, primary visual area V1, lateral sulcus. [7]