

**Exam PSY2302
Brain and cognition
Fall 2016**

Written school exam, Friday November 11th,

09.00-12.00 (3 hours).

Answers can be written in English, Norwegian, Swedish, or Danish.

Only three (3) of the four following questions must be answered.

Keep the answers brief!

Answer 3 of the 4 questions below:

Question 1. Attention

- (a) Define the concepts of exogenous attention and endogenous attention and give an example for each.
- (b) How are the concepts of exogenous and endogenous attention controlled by the brain according to the model proposed by M. Corbetta & G. Shulman?
- (c) How does an “unexpected” event trigger attention within this model?

Question 2. Varieties and mechanisms

- (a) Give a definition of LTP
- (b) Why is LTP a good candidate for a cellular mechanism of memory?
- (c) Describe an experiment that could be performed in order to seek evidence for the link between LTP and memory performance

Question 3. Emotion

- (a) Name and shortly explain three general approaches for the classification of emotions
- (b) According to somatic marker hypothesis, how do emotions influence reasoning and decision making?
- (c) Which brain region/s are thought to play a key role there?

Question 4. Decision making

- (a) Define and give an example for each definition: primary reinforcer, secondary reinforcer, negative reinforcement
- (b) Name the key brain structure/s and neurotransmitter/s that constitute the mesolimbic/mesocortical pathways associated with reward processing.
- (c) What is reward prediction error?