Exam PSY2302, h2018

Only three (3) of the four following questions must be answered. Keep the answers brief!
Answers can be written in English, Norwegian, Swedish, or Danish.

Question 1: Control of Attention. (a) Briefly describe how the control of attention is
implemented in the brain according to the model proposed by M. Corbetta & G. Shulman.
(b) What is hemispatial neglect? (c) Which of Corbetta and Shulman's attention networks is
primarily affected by lesions when hemispatial neglect occurs? Accordingly, what should be
the primary attentional deficit in neglect patients.

Question 2: Declarative Memory. A simple neurological model (the hippocampal indexing
theory) has been proposed to explain the encoding and retrieval of declarative memories.
(a) Describe and explain how this model accounts for the encoding of an event in memory.
(b) Explain the process of memory retrieval according to the model. (c) Discuss two reasons
why the model accounts well for explaining the effects of brain damage upon declarative
memory.

Question 3: Language. (a) Name the main cortical region involved in language
comprehension and language production, respectively. (b) A researcher examines split-brain
patients. She places an apple in the left hand and a spoon in the right hand of the patient
and asks the patient to name the objects. What is the likely verbal answer of a split-brain
patient in this situation? What does it tell us about the hemispheric lateralisation of
language and why? (c) The N400 component of the EEG signal is used to examine human
sentence processing. What does the N400 reflect? Give an example of a sentence and
indicate the word that would likely elicit an N400 response.

Question 4: Decision making. (a) What is meant by "reference dependence" when people
estimate the subjective value (i.e. utility) of a prospect (i.e. a future reward-related option)?
(b) Which neural mechanisms are thought to underlie this phenomenon? (c) How can the
neural mechanism be measured in humans?