

MSc. Minh Huong NGO – 2526I_AIT3018 Cognition, Language and Thought
Final Exam Instructions

Guidelines for final exam:

1. Date and time: 06 & 07 Jan 2026, whole working day from 8AM. You can come at any time during this time, preferably as early as possible.

2. Location: 307-A.

3. Language: either English or Vietnamese.

4. Format: Oral exam.

- 2 pts of Neuroanatomy: 1 random out of 3 neuroanatomy pictures given to you beforehand, you will need to name the numbered brain parts on the picture and their cognitive functions.

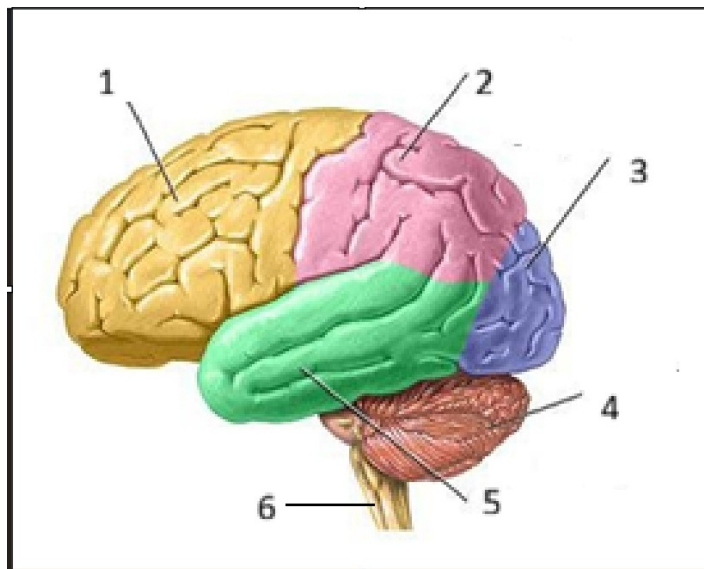
- 4 pts of questions based on course knowledge: 2 random out of 33 questions from the review question list below.

- 4 pts of reading presentation: choose yourself 1 article from the articles posted on LMS and prepare a brief summary of the article, also consult the discussing questions from the slides that I prepared (I might ask questions to check if you truly understand the articles).

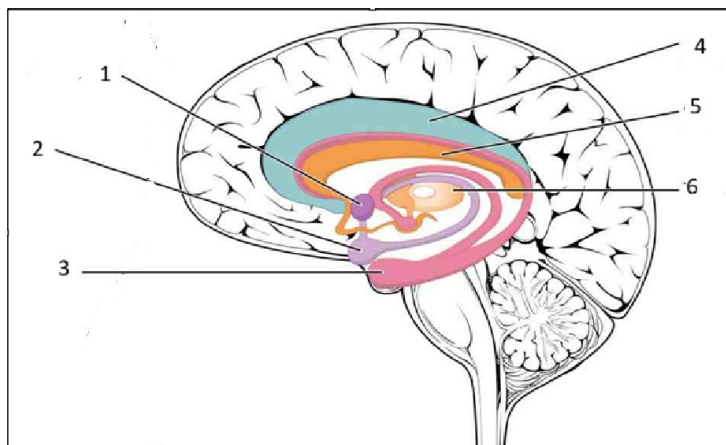
Review question list

A/ Neuroanatomy: Name the brain parts and their cognitive functions

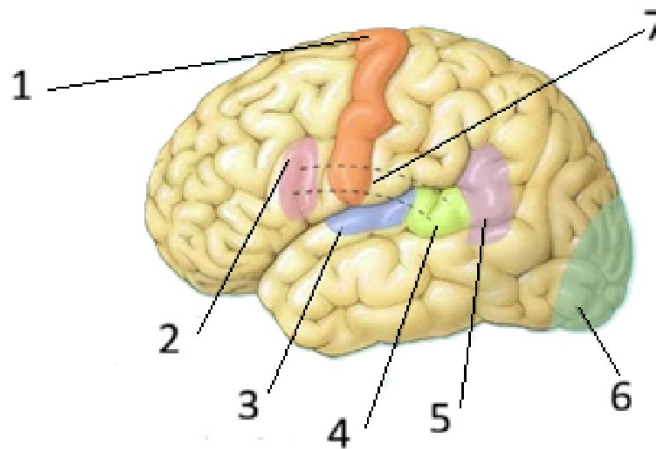
a) Outer brain:



b) Inner brain (limbic system):



c) Wernicke-Geschwind Model:



B/ Course knowledge questions (brief answers only):

Q1: Name 5 scientists that had great contribution in the history of cognitive science and their major works (1 or 2 examples each).

Q2: Name 5 applications in AI/Robotics that are based on cognition or language.

Q3: Name 5 disorders or diseases that are related to cognitive or linguistic functions.

Q4: Distinguish these concepts: brain – mind – soul – body – spirit – consciousness

Q5: Name and explain the types of body&soul monism and dualism.

Q6: Distinguish these concepts: transhumanism - mind uploading – panpsychism - cosmic mind – super intelligence – non-human intelligence.

Q7: Distinguish these concepts: cognition – sensation – perception – thought – reasoning – decision making – problem solving

Q8: What are the Gestalt principles of perception?

Q9: What are the main types of attention? Distinguish the 3 theories of attention

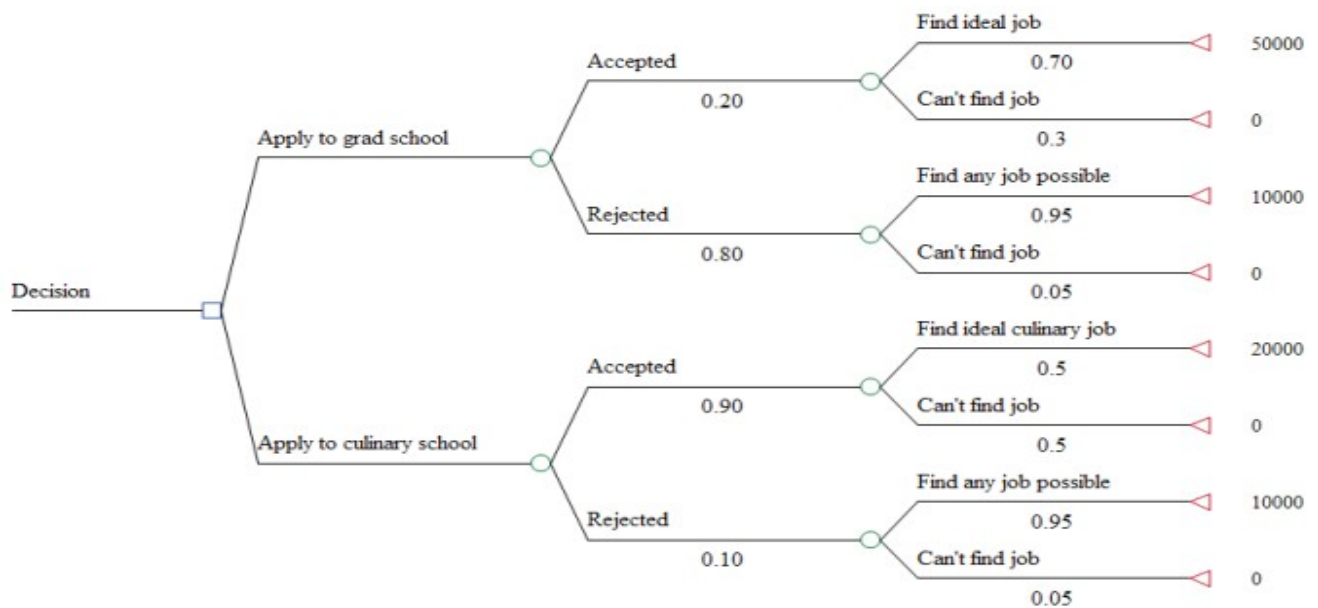
(Broadbent's Filter Theory, Treisman's Attenuation Model and Late Selection Theory)

Q10: Explain the Three-box model of memory (Atkinson&Shiffrin, 1968)

Q11: Decision making: Given the Expected Utility Theory (von Neumann & Morgenstern, 1944) with the formula: $EU = \sum (\text{Probability} \times \text{Value})$ and the following decision tree:

Imagine after graduating from university, you have two career choices to make - choice 1: listen to your parents and apply to grad school & choice 2: listen to your heart and follow your hobby by applying to culinary school. You Only Have One Life so you have to choose carefully. Calculate the expected utility of the two choices and tell me which career choice will benefit you more. This will give you insights to avoid unemployment.

The decision tree



Q12: Name and explain 5 types of cognitive biases that can affect reasoning.

Q13: Distinguish emotion – feeling – mood. What are the 3 key elements of Emotion?

Distinguish the 3 types of empathy (cognitive, emotional and compassionate)

Q14: Distinguish intrinsic and extrinsic motivation. According to Maslow's Hierarchy, what do human need to fulfill happiness?

Q15: Distinguish these concepts: acute stress – chronic stress – episodic stress – distress – eustress – burnout – mental health – mental illness. Who do you think are most likely to be affected by stress/mental illness, and which is the most helpful way for you to reduce stress?

Q16: According to Gardner's Theory of Multiple Intelligences (1983), what are the main types of intelligences? What kinds of intelligence match you the most?

Q17: According to Graham Wallas (1926), there are 4 stages of creativity in a creative process, what are they? Tell me about one of your creative ideas that you ever thought of and take pride in.

Q18: What is language? What is linguistics? What are the main branches of linguistics?

Q19: Distinguish the 5 main basic components of linguistics and their smallest units.

Q20: Speech Act Theories – Austin (1962) and Searle (1976): Name the types of speech acts from these two theories and give me some examples.

Q21: What are the main branches of phonetics?

Q22: What are the factors that can affect language evolution?

Q23: What are the 4 Gricean Maxims of Conversation (1975)? Given the following advertisement, analyze which maxims it has violated.



Q24: What are the differences between language learning and language acquisition? What is Critical Period Hypothesis? According to Piaget's Theory of Cognitive Development, what are the stages of Cognitive Development?

Q25: According to Levelt's model of production, what are the stages of speech production? Give me an example of how to produce a word.

Q26: What are the units of thought?

Q27: What are the 6 levels of critical thinking (Bloom's taxonomy, 1990) and 4 levels of Depth of knowledge (Webb, 2002)? Is there any skill you think that you have reached the highest level?

Q28: Name 5 types of thought and their examples.

Q29: Distinguish adversarial thinking vs parallel thinking. What are the six thinking hats (Edward de Bono)?

Q30: Name 5 tools of thought. Examples.

Q31: What is conceptual metaphor? Find an example in everyday language.

Q32: What is dual thinking process theory? What are the functional differences between left and right brain hemispheres? What is neuroplasticity? Explain the two types of neuroplasticity.

Q33: Distinguish these concepts: linguistic universalism – linguistic determinism – linguistic relativity. Give me 5 examples of Sapir-Whorf Hypothesis.

(Why 33 questions? Because there are 33 members in Call Me By Fire Vietnam).