

PSYCHOLOGY 354 FINAL EXAM
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(2 hour exam)

Part I: Choose any TEN of the following terms, and write a short (2-3 sentence) definition for each. The definition should indicate what the term means, and should also indicate why the term is important to cognitive science. Remember, ONLY 10 DEFINITIONS are required. Each definition is marked out of 3 points.

Isotropic process	Functional Analysis	Cognitive Impenetrability
Nearest Neighbour Principle	Production System	Turing Equivalence
Natural Constraint	Motion Correspondence Problem	Functional Architecture
Functional Dissociation	Homunculus Problem	Depth-first Search

Part II: Choose any ONE of the following questions, and write a short essay (3-4 pages) to answer it. Make sure that your answer is clear and concise, and also make sure that you deal with the question directly. Your answer will be marked out of 35 points.

1. One way to construe the difference between Classical and Connectionist theories in cognitive science is in terms of a debate about the nature of mental primitives or "the language of thought". Discuss these two approaches in this context, considering how one might go about resolving this particular debate.
2. At first glance, visual processing and language processing are quite different. However, from some perspectives in cognitive science, these two types of processing are quite similar. Discuss both similarities and differences concerning theories of vision and language. Illustrate your answer with some relevant examples.
3. One would imagine that after the party in the Star Trek episode "Measure of a Man", Ryker complemented Picard on his performance and on his winning the hearing concerning Data. "It was nothing at all, Number One", replied Picard. "I simply realized that you were stuck at the implementational level, and I merely had to remember all of the advantages of functionalism that I learned when I took cognitive science at Star Fleet Academy." What are the advantages and disadvantages of functionalism to cognitive science? Discuss this issue, using relevant examples, including (possibly) examples taken from this Star Trek episode.