

Study Guide for FYS (Minds, Robots, and the End of Humanity) final exam

Here is a longer list of study questions for the final exam discussion. You should gather your reading materials and notes, and then write down relevant facts and arguments relevant to each of the following discussion questions. Apart from an interest in having a good and productive discussion, you will earn points by making comments that are true, relevant, and further the discussion. We will begin with topics that you are most interested in discussing, and go from there.

- (1) What is “strong AI” and how does it fit in with ANI, AGI, and ASI? What are the main obstacles to creating strong AI or these other forms? What are the implications of these developments?
- (2) Should we be worried about developing AGI and ASI? What is “the technological singularity” mentioned by Vinge (and many others since him)?
- (3) What is the difference between exponential and linear growth. What sort of growth do we find in computer technology and power, and what are the implications of this growth?
- (4) What are some measures that humans could take to prevent robots from self-improving themselves into a kind of thing that threatens human existence.
- (5) What is a Turing machine and what relevance is it to the topics of this class?
- (6) What is at stake in Daniel Dennett’s thought experiment (where his brain is removed from his body, with the neural connections maintained by radio transmitters/receivers). Where is Dennett, and why is he there?
- (7) What would prevent your mind from being imported into a computer? If such an importation could be done, would there now be two of you? If your body and brain were then to be destroyed (oops!), would you still exist?
- (8) Can machines ever become conscious? Why or why not? How do we know or determine if something is conscious?
- (9) What is the difference between physicalist and dualist understandings of the mind?
- (10) Why a defecating duck?
- (11) What is the difference between a person and a human being? Is this difference important?
- (12) Are non-human animals conscious? Explain why or why not. If you think they are conscious, how does this differ from human consciousness?
- (13) What is panpsychism, and what does it have to do with “integrated information theory” (IIT)?
- (14) Should we encourage the development and use of social robots for taking care of the sick and elderly? What are the advantages of using so-called “emotional robots” like Pepper?
- (15) To what extent, if any should autonomous machines be used in warfare and/or policing?
- (16) To what extent, if any, should we arm the ducks?
- (17) What are the implications of the growth of A.I. on the economy? On our jobs? What would the Luddites do if they were alive today?
- (18) At what point in the development of A.I. will a machine with A.I. develop moral rights (or protections) against human beings? (To use different terms to say the same thing: At what point would we acquire moral duties or obligations towards the machine?)