

# Homework VII - Coming Back Home. (odd)

We learned the simple physical principles involved with our brain function and memory development. Principles such as; magnetic memory, electric motors, generators, loudspeakers, transformers, magnetic domains, magnetic fields, holograms, lasers, quantum consciousness, and the video Future Fantastic. It's easy to cut and paste. Answer the questions in your own words. I want to see you in your answer.

Required questions are denoted by (\*)

1) How does a generator work? Briefly explain the steps in creating electricity. \*

2) What are the three magnetic interactions of a moving charge in a magnetic field. (Hyperphysics) \*

3) A current in a coiled wire will \*

- a. produce a magnetic field on the outside of the coil, in the same direction as the current. The more the number of coils, the stronger the magnetic field outside the coil.
- b. produce a current around the coil. The more the number of coils, the stronger the magnetic field inside the coil.
- c. produce a magnetic field in the coil. The magnetic field is in the same direction as the current.
- d. produce a magnetic field both inside and outside a coil. The more the number of coils, the stronger the magnetic field inside the coil.
- e. produce a current inside and outside the coil. The more the number of coils, the stronger the magnetic field inside the coil.
- f. produce a magnetic field in and around the coil. The stronger the current thru the coil, the stronger the magnetic field in and around the coil.

4) In Future Fantastic, there were possible configurations of human and machine. These were \*

- a. all human, human brain-machine body parts, machine brain-human body parts, all machine
- b. all human, part cyborg, all machine
- c. some human, all human brain-some machine body parts, some machine brain-all human body parts, some machine
- d. all machine, all human, all cyborg
- e. all human brain, human-machine body parts, machine-human body parts, all machine brain

5) In your own words, briefly explain how a transformer works. \*

6) What is Holographic memory? Briefly explain how it works. \*

7) A laser is used to make a hologram instead of a light bulb because \*

- a. laser light is monochromatic (wavelength) and coherent (out of phase)
- b. laser light is monochromatic (one wavelength) and coherent (in phase)
- c. laser light is monochromatic (many wavelengths) and coherent (in phase)
- d. laser light is stronger (more intense) and does not disperse (in phase)
- e. none of these

8) Download the game of life. Play with it. What are the rules? Why does 'life' seem to be evident? Bryson mentions complexity as being both natural and simple, why? Which characters in the game of life lived the longest? \*

9) Briefly, summarize the Quantum Consciousness slide show. \*

10) Some scientists thought that neurons were the most fundamental aspect of consciousness. After watching and reading the QC slide show, why would you disagree? \*

11) Your name \*

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