Feynman Essay

In 1959 Richard Feynman, a nobel prize-winning physicist, gave an after-dinner speech at the American Physical Society at the California Institute of Technology (Caltech). This famous speech ‘There’s Plenty of Room at the Bottom’ is available on-line at http://www.zyvex.com/nanotech/feynman.html. There is also an interesting editorial in a recent issue of Nature Nanotechnology celebrating the 50th anniversary of the speech, this can be found at http://www.nature.com/nnano/journal/v4/n12/full/nnano.2009.356.html. Make sure to read the speech in its entirety as well as the editorial.

You will then write a 2-3 page essay (1.5 line-spacing, 12 point Times New Roman, 1 inch margins) that addresses the prompts/questions at the bottom of this page. The bulk of the essay will be your thoughts on the speech as a whole in terms of the technology being discussed and proposed and it will be in essay format but with clear paragraphs addressing each point. The essay will be evaluated for clarity of thought, organization of ideas, grammar, syntax and accurate/complete referencing of sources.

This speech is viewed by many as a “vision of the scientific field that today we call nanotechnology”. It is interesting to note that in the first 20 years after the lecture was published in 1960, it was cited a grand total of 7 times in the scientific literature and it is generally accepted “that it was not until 1992 that the paper started to receive significant attention”\(^1\).

1. Describe in detail your own thoughts, as a burgeoning engineer, on the essay. How might you explain the basic ideas and proposals to your technically-challenged grandparents/parents/English teacher (get the idea?)

2. Our ability to now write on a small-scale is probably one of the most provocative of the fulfilled promises of Feynman’s speech. Find the image of atomic manipulation that caused a “stir” in 1990 and describe it in detail and in terms of Feynman’s thoughts 30 years earlier.

3. Try and find out if the prizes were ever claimed – explain your findings.

4. In terms of building smaller computers, we have definitely accomplished a lot of what Feynman envisioned. Today’s abundance of ipods, ipads, iphones are a realization of engineering prowess. Finish your essay with your thoughts about the future possibilities of the multi-disciplined area of nanotechnology, again from an engineering standpoint.

Reference

Citing References:
Use the CSE Citation-sequence documentation style when citing references in this class.

Examples:
**How to make in-text citations**

When Entire Sentence(s) are picked up from an article
Example: It is important to understand the implications of the word problem, as well as the logic of the formulas used to find the correct answer\(^1\).

When part of Sentence is picked up from an article
Example: They have been proven to play different but vital roles in the ecosystem\(^2\) and students should plant them on Earth Day.

**How to form your ‘References’ Page**
References:
1. Web Document Author. Site Title [home page on the Internet]. Published City (Published State): Publisher; Year Month Day. [cited Year Month Day]. Available from: URL Address.
2. Book Author Last Name, First Initial. Book Title. City Published (State Published): Publisher; Year. Total Page Numbers p.

Please refer to [http://writing.wisc.edu/Handbook/DocCSE_CitationSystems.html#format_intext](http://writing.wisc.edu/Handbook/DocCSE_CitationSystems.html#format_intext) for more information (we will use CSE Citation-sequence documentation)