**Chapter 1 Questions for FYS 178 Fall 2020**

What was the full name of Vilhelm’s father?

Vilhelm and his father won a prize at an electric exhibition in 1881. In what city did this exhibition take place?

Four factors prevented Vilhelm’s father from preparing a manuscript describing his research. List the four factors.

Vilhelm was awarded a fellowship to study abroad during the 1889-91 academic years. Name two prominent cities where Vilhelm studied during this fellowship.

How was the reality of working for Hertz different from what Vilhelm had imagined?

What prominent scientist came to a significant conclusion at the same time of Vilhelm during Vilhelm’s work in Hertz’s laboratory and managed to publish his findings before Vilhelm?

Instead of remaining with Hertz at the end of his fellowship, Vilhelm chose to return to Norway. Why?

In what year did Vilhelm obtain a doctorate degree?

What did Vihelm’s father realize was the most likely chance for seeing his (Vilhelm’s father) research work published?

Of the two research areas; work with Hertz (electric waves) and work with his father (hydrodynamic actions at a distance), which area did Vilhelm abandon in 1895?

How did Hertz’s posthumously published *The Principles of Mechanics, Presented in a New Form* (1894) give Vilhelm hope in terms of his and his father’s hydrodynamic investigations?

Vilhelm’s generalized circulation theorem produced a result that seemed to contradict the well-established theorems of two prominent scientists. Name one of the scientists.

The results of Vilhelm’s work with Hertz and other wave and radiation research began to be integrated into a growing communications industry in the late 1800s. Name the communications industry.

Otto Pettersson feared Vilhelm was driving himself to the point of breakdown in 1899. What was the source of conflict that was leading Vilhelm toward a breakdown?

Did the new discoveries in physics around 1899 give Vilhelm great hope or cause him great dismay when he considered how his book would be received by his fellow scientists?

What two qualities did Vilhelm lack to persuade physicists to consider his specific research problems and his research program while at the högskola?

Describe the condition of the physics facilities at Stockholm Högskola and give a reason why the university was or was not a good place to launch a major research program.

Vilhelm was nominated for membership to what committee by Arrhenius in 1902?

Norway declared independence from the Swedish king in what year?

Where was Vilhelm’s scientific career headed by the middle of the first decade of the twentieth century?