UNIVERSITY OF TORONTO

Faculty of Arts and Science

Final Examination Summer 2018 (JUNE)

HPS 210H1S

Duration — 2 hours. No Aids Allowed

You have 120 minutes (2 hours) to complete this final examination. Keep your answers as precise as possible.

Part A.

Draw lines between appropriates. Use this sheet. (8 x 1 = 8)

Newton	[a]	(1)	the amber effect
Descartes	[b]	(2)	subvisibilia
Leeuwenhoek	[c]	(3)	centrifugal tendency
Gilbert	[d]	(4)	Inductive method
Galileo	[e]	(5)	gray drone fly
Bacon	[f]	(6)	"crucial" experiment"
Hooke	[g]	(7)	*in virtu di perspettiva*

Part B.

Define any 6 of the following terms in a paragraph consisting of 3 or 4 sentences each. Use illustrations, if you wish, and an example, where needed. Use booklet. (6 x 2 = 12 marks)

1. hypothesis (for Newton)
2. primary/secondary quality distinction (for Descartes)
3. thought experiment
4. sunspots (for Galileo)
5. transmission of forms
6. action at a distance
7. Kepler's third law of motion

8. the law of inertia (for Descartes)

Part C

Write a brief (2 to 3-page essay) on ONE of the following questions. Use booklet. (10 marks)

1. The mechanical philosophy is essentially the view that all phenomena are to be explained in terms of the so-called mechanical properties of bodies (magnitude, figure, and motion). In what way does this philosophy challenge Aristotle's theory of causation? Discuss the way that this philosophy is realized in the views of ONE 17th century scientist.

2. The scientific contributions of Vesalius, Harvey, Hooke, and Leéwenhoek were all fashioned to some extent under the influence of the new mechanical philosophy. Discuss the merits of this assertion with respect to any two of these figures.

Part D

Write a brief (2 to 3-page essay) on ONE of the following questions. Use booklet. (10 marks)

3. During this course, we have discussed the rather intense interaction between science and religion in the seventeenth century. Using examples, mount an argument that takes a position on this interaction. In other words, discuss whether you regard this relationship as positive, negative, or a combination of both.

4. In what way does the law of inertia redefine the "problem of the planets"? In what way does it figure in Newton's general conception of force and his overall strategy for providing a demonstration of the Copernican system?

Exam Total: 40