

MID-TERM EXAMINATION

HIS 3463 - History of Science

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The following IDs and Essay Questions serve as a Study Guide for the Mid-Term Examination in HIS 3463, Introduction to the History of Science, Origins to Newton. As announced on the course syllabus, students *must* write their Exam in a Blue Examination Booklet. This 50-minute Examination is in two Parts (20 minutes and 30 minutes). As announced on the syllabus, students are encouraged to visit my WebSite (<http://www.clas.ufl.edu/users/rhatch/pages>) and to study the portion 'How to Take a Blue Book Exam.' Please do not write on this examination sheet; bring it to class on Exam Day. This type of examination will test your knowledge, preparation, and writing skill. Please make every effort to be prepared. Preparing and writing the exam should be a learning experience.

Part One (40%; 20 minutes) will consist of your choice of 4 of 7 Identifications (ID's) from the list below. It is essential that answers describe **and** also evaluate the **significance** of the ID. Please note that this format is much more difficult than it may appear. You must take preparation seriously. Write as much intelligent prose as time allows. Each ID should be approximately one page in your examination booklet (ca. 250 words). Think of the ID as a short essay. The ID should be highly selective with emphasis on relevant issues, appropriate detail, and an analysis of significance. There may be a number of specific points of significance. Success comes from thoughtful preparation and clear, detailed, appropriate responses.

Part Two (60%; 30 minutes) will be one of the Essays listed below. Because the questions are circulated in advance, it is essential that your essay be well-organized, well-expressed, and well-defended with examples, illustrations, and arguments from the readings, lectures, and discussions. In general, be specific; write as much intelligent prose as time allows. Explain yourself; state your thesis, provide structure and argument. Use appropriate examples to defend your position; adjust your emphasis to the importance of the issues you treat. Budget your time carefully. The Essay should be comprehensive but balanced.

PART I: IDs (40%, 20 minutes). Seven ID's from the following list will be announced on Exam Day; you will choose to write on 4 of 7. You must be clear and explicit; you must explain the **significance** of the ID comprehensively. Please note that a few sentences will **not** do. You must write a comprehensive and critical mini-essay; one page in a blue book is an average length. Quality is critical.

One-Many	Plato's Forms	Being-Becoming
Heraclitus	I-Thou/I-It	Thales
Venus	Eudoxus	Four Elements
The Lyceum	Epicycle	Violent Motion
Aristarchus	Equant	Aether
Chain of Being	The Museum	The Academy
Natural Place	Retrograde Motion	Peurbach
Pythagoras	Impetus	Islamic Science
Plato's Dictum	Buridan's Ass	Odd Numbers Law
Stellar Parallax	Allegory of the Cave	Sexagesimal
Homocentrics	Heraclides of Pontus	Nicolas of Cusa
Parmenides	Bisection of eccentricity	Bird/Rabbit
Substratum	Place-value-notation	Appearance-Reality

PART II: (60%, 30 minutes). One of the following essays will be announced on Exam Day. You must argue and defend your position in a coherent, well-articulated, well-supported essay. Be comprehensive & clear; use specific and appropriate examples to support your thesis (the position that you defend), i.e, your carefully stated interpretation of the question. In general be specific.

1. Henri Frankfort's juxtaposition of 'I-Thou'/'I-It' is suggestive of an opposition between 'subjective/objective' or of an 'emotional/intellectual' dualism. Are such dualistic modes useful in treating the contents of this course? What are their strengths and weaknesses? Can they be misleading? Discuss, employing specific examples from the readings, lectures, and discussions.

2. The history of science can be viewed as a dynamic tension between description and explanation. Using astronomy and cosmology as examples, argue either that description is more important than explanation, or vice versa, between and among the Egyptians, Babylonians, and the Greeks {Thales to Ptolemy}. Be specific in defending your position.

3. Compare and contrast the world views of Plato and Aristotle. What are their views of 'reality' and the nature of knowledge? Why are their views important? Why has their influence been so great? Be specific and defend your position with appropriate examples.

4. Compare and contrast the role of institutions of learning at Athens, Alexandria, and in Islam and the Latin West. What is the relationship of ideas and institutions? Be specific.

5. What is science? Write a clear and coherent essay comparing and contrasting the scientific ideas, practices, methods, and worldviews of the Egyptians, Babylonians, Greeks {Hellenic and Hellenistic} and those of the Medieval period. How would you characterize the various views of reality, knowledge, and belief? How and why did these views change or remain the same? Be specific. Support your position with carefully selected arguments, examples, and illustrations.

6. Compare and contrast the views of Aristotle and Ptolemy. How were their views of reality, truth, and method similar or dissimilar? Be specific.

7. How have symbols affected the development of science in the period from the Babylonians to Copernicus {for example, the movement marked by oral traditions in myth, the invention of writing, the emergence of numerical and mathematical notation, the use of geometrical representation in model building}. Further, how does language—and other symbolic practices—affect our ability to understand other worldviews, other times, places, and forms of belief?

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