Below I list 30 possible short answer questions for our midterm exam. I will give you a choice of six questions to answer out of a possible nine or ten. As you look at these, remember short answers require only a few minutes of writing, a few sentences of writing. As you work your way through this material, think in broad terms and you should be equally well prepared for the essay section.

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1. Describe 2 ways in which, according to Aristotle, terrestrial and celestial bodies differ.

2. Describe 2 observations by Galileo that conclusively contradict beliefs of Aristotle.

3. What two new cosmological assumptions were made by Aristarchus, and what simplifications to cosmic models resulted?

4. What reason did Copernicus give for rejecting equants?

5. What kind of results did Copernicus obtain with a moving Earth model that were not possible with a geocentric model?

6. Why were Tycho’s conclusions (give two) about the comet of 1577 important?

7. What new and important information about planetary motion is contained in Kepler’s first two laws?

8. Could Galileo’s observations of all the phases of Venus support the heliocentric system, and/or the Tychonic system and/or the Ptolemaic system? Explain briefly.

9. In what way(s) did Galileo’s observations of the sun and moon weaken the Aristotelian view of the universe?

10. Describe the achievement of Eudoxus.

11. Explain why a total eclipse of the sun is not visible over the entire globe of the Earth.

12. Describe the experiments of Philoponus concerning ’natural motion’ and their importance concerning Aristotelian concepts.

13. Compare and contrast solar and sidereal time.
14. Describe the experiments used to prove that the earth is not moving. Why did Bishops Buridan and Oresme criticize them?

15. Describe the contribution of Pythagoras to cosmology. Give two examples.

16. Edward Harrison distinguishes between ‘the Universe’ and ’the universe.’ Briefly explain the distinction.

17. Kepler did not believe in an infinite universe. Describe his arguments; give two examples.

18. What is the Saros Cycle? Why might it have been useful to which famous pre-Socratic natural philosopher?

19. Explain how the cosmological model of Copernicus was similar/dissimilar to its geocentric predecessors.

20. What was the atomist model of the cosmos, and why was it not acceptable to the Aristotelians?

21. What was Kepler’s concept of force and how did it differ from that of Galileo?

22. It is said that Kepler was the last of the great astrologers and the first of the modern astrophysicists. Explain briefly.

23. What were some of the major contributions of pre-Socratic natural philosophy to cosmology and astronomy? Give two and explain briefly.

24. Give two reasons why the model of Copernicus was largely ignored by his intellectual colleagues.

25. Describe the natural philosophy of Parmenides and its importance to succeeding generations of philosophers.

26. Describe the concept of heliocentric parallax and its importance to the solar system models of Aristarchus, Copernicus, Tycho and Kepler.

27. What is meant by the retrograde motion of the planet Mars and how is this phenomenon explained by the geocentric model of Ptolemy?

28. Explain in your own words the observed phenomenon of the retrograde motion of the superior planets.
29. Define Ockham’s Razor.

30. What were the tenets of the atomist school of thought, and how did atomism solve Zeno’s paradox.