Note: Students will be allowed for personal breaks including lunch. It's negotiated between the proctor and student. Exam on each day is for six hours.

Day 1: Technology Core (2-hour)

2-hour time limit (the student is given all 3 questions at the same time and the student decides how much time to devote to each one)

1. Discuss the relationships of society, culture, and technology. Include the societal subsets of the individual, corporations, industries, nations, or any other subsets you think are important. Include ideological or cultural subsets based on political philosophies, religion, or any others you think are important. Give specific examples. In your answer, incorporate the definitions of technology, society, and culture.

2. As a world community, how might we manage technology, its development and impacts on people and the environment? Think futuristically and globally about this. What patterns are evolving? Do we just let things happen or should we be more proactive in providing direction (or some combination)? Assuming we should manage technology, how might we accomplish this enormous task? What are the implications if we do not manage technology? Provide specific real or probable scenarios.

3. Compare and contrast the major strategic concerns of the following regarding technology: The United States, countries of the world in general, corporations, top managers, employees, and ordinary consumers and citizens. How have these strategic concerns changed from the past? How will they change in the future? Use real or probably examples.

Day 1: Research Core (4-hour)

4-hour time limit (the student is given all questions at the same time and the student decides how much time to devote to each one)

1. Define knowledge. Define research. Outline the major ways of knowing. Outline and describe the major ways to categorize research. Define and discuss each category (categories may overlap). Include categories and concepts such as empirical, applied, R&D, basic, qualitative, quantitative, and any others you wish to include. Is there a commonality to all research? If so, what is it?

2. Using examples from your field, discuss one example of each of the following. Each example should be foundational (or potentially foundational) in that it has or is likely to have broad import to subsequent research. Make the case that each example is foundational or likely to become viewed as so. In discussing each example, include the methodologies and designs used (including equipment and other mechanisms), the threats to validity and how those threats were or were not dealt with, and the generalizability of the results.
    a. Research that occurred 10+ years ago (could be 100 years).

b. Current or ongoing research.
c. Research that might happen 10+ years from now.

3. Select a current problem related to your profession, field, or discipline. Define this problem and discuss its relationship to technology management and quality systems. Summarize a research project to address this problem. Include typical dissertation chapter 1 content, e.g., research question, rationale, and objectives. Include some chapter 2 sources and why those sources are important. Focus on chapter 3 content, i.e., methodology and research design (does not have to be based on statistics). As applicable, include the types of variables and data, instrumentation and equipment, supplies and facilities, personnel, and other pertinent factors. Provide a budget and time line.

4. What is the role of research in the management of technology? Give an example or case study?

Day 2: Specialization (6-hour)