國立陽明大學 103 學年度碩士班暨碩士在職專班
招生考試筆試試題

所組別： 科技與社會研究所

科目： 英文閱讀與理解 **請勾選：■碩士班 □碩士在職專班**

★ 請將下列四個段落翻譯為中文。若時間不足，則儘量說明各段內容要旨。

1. Official history of science distributes credit and provides a field with its self-image. But credit can be properly distributed only after any controversy or uncertainty is resolved; therefore this kind of history is usually written long after the event... Writing official history is a proper activity within a scientific field. It serves, perhaps, the same purpose as the political history which takes the succession of important kings, queens, warriors and statesman as its subject. Nevertheless, official history cannot help us understand the nature of science. For example, one of its features is that it is a history of heroes; failures do not figure significantly in official history of science. But to understand the nature of science we have to understand why failures fail as much as why heroes succeed. (25%)

   ----- Harry Collins and Trevor Pinch, *The Golem* (1998), p.165

2. A study confirming a link between atmospheric pollution and heart-attack risk strengthens the EU case for tougher clean-air targets, experts say. Research in the *British Medical Journal* looking at long-term data for 100,000 people in five European countries found evidence of harm, even at permitted concentrations. Experts stressed that the risk to an individual was still relatively small. And some argued the results were not conclusive as they did not take account of previous exposure to higher levels. Other factors, such as smoking or having high blood pressure, contribute more to a person's risk of heart attack than pollution from traffic fumes and industry, they say. But repeated, long-term exposure to air pollution—living next to a busy road in a city, for example—does take its toll, the research, involving a collaboration of European universities and institutes, reveals. (25%)

   ----- Michelle Roberts, 'EU Air Pollution Target "Still too High" for Heart Health,' BBC News, 22 January 2014

3. The analogy that relates the evolution of organism to the evolution of scientific ideas can easily be pushed too far. But with respect to the issues discussed [here] it is nearly perfect. The process described in section XII as the resolution of revolutions is the selection by conflict within the scientific community of the fittest way to practice future science. The net result of a sequence of such revolutionary selections, separated by periods of normal research, is the wonderfully adapted set of instruments we call modern scientific knowledge... And the entire process may have occurred, as we now suppose biological evolution did, without benefit of a set goal, a permanent fixed scientific truth, of which each stage of the scientific development is a better exemplar. (25%)

   -----Thomas Kuhn, *The Structure of Scientific Revolutions* (2012, 50th anniversary edition), pp.171-172

4. Folklore says that experiments must be repeatable. This has generated a philosophical pseudo-problem. It is clear that a variety of experiments is more compelling than repetitions of the same event. So philosophers have tried either to show that the repetitions are as valuable as the original, or have tried to explain, using say the calculus of probabilities, why the repetitions of an experiment are less valuable. This is a pseudo-problem because, roughly speaking, no one ever repeats an experiment. Typically serious repetitions of an experiment are attempts to do the same thing better—to produce a more stable, less noisy version of the phenomenon. A repetition of an experiment usually uses different kinds of equipment... (25%)

   ----- Ian Hacking, *Representing and Intervening* (1983), p.231