

2005 年度入社試験問題（学科）

1. 化学

- (1) 水 200g にシヨ糖を 50g 溶かした溶液のシヨ糖の重量%は？
- (2) 水酸化ナトリウム 4.0g を水に溶かして 200ml としたとき、水酸化ナトリウムのモル濃度を求めよ。原子量は Na=23, O=16, H=1 とする。

2. 英文和訳

The art of preserving is as old as human civilization itself. In a way it may be said to derive from the instinct of self-preservation common to all animate beings. In spite of everything it seems we want to keep the passive alive. For nearly two millennia the preservation of works of art on paper has been practised in the Far East. Originating first in China at the beginning of the Christian era, conservation techniques and materials quickly spread to Japan and subsequently to other areas. A fifth-century Chinese writer, **Chia Ssu-hsieh** (賈思勰), in his agricultural encyclopedia **Ch'imin yao-shu** (齊民要術), raised points in conservation that are familiar to paper conservator today: care in handling objects, choice of correct materials for conservation, correct storage and vigilance against infestation, exposure at correct levels of humidity, and exclusion of sunlight.

As a full-growth of profession, however, preservation does not have a very long history. It was only some thirty years ago that paper and book preservation established itself as a true profession in the public domains of education, law, administration and cultural heritage. In the process of professionalization the conservator increasingly made use of science. These days, preservation science is a speciality in its right in which scientists develop an understanding of why research into methods and materials for arresting that deterioration. In resolving questions, preservation scientists may apply the pure sciences such as chemistry and biology, applied sciences and environmental science.

Science or not, we have to keep in mind that the cycle of nature dictates that all things made of organic matter must decay. We can only expect to slow down the rate of the deterioration of our paper-based materials heritage, the core of our activities.