

2010年8月26日実施

2011年度立命館大学大学院理工学研究科
博士課程後期課程
入学試験問題（外国語科目）

環境都市型

【注意事項】

1. 解答は問題番号1、2、・・・ごとに解答用紙1枚を使用して下さい。
2. 受験番号、氏名、問題番号を解答用紙すべてに記入して下さい。
3. 無記名答案は無効、問題用紙および解答用紙の持ち帰りは認めていません。
4. 解答用紙はホッチキス止めしてあるので、はずさないで下さい。
5. 問題用紙が事前に届け出ている型の問題であるか確認し、解答して下さい。
6. 外国語科目試験時間
10:00～11:30（90分）
試験時間中の途中退室は認めていません。

立命館大学大学院理工学研究科（博士課程後期課程）

[外国語] 環境都市型

1.

以下の文章は Management Science に関する教科書の一節である。5つの段落から構成されているが、そのうち3つの段落を選んで和訳しなさい。和訳部がどの段落に対応するか明記すること。

(出典：MANAGEMENT SCIENCE, Lee, Moore and Taylor)

As noted in the previous section, management science encompasses the application of a scientific approach to problem solving. The objective of scientific decision making is to make good choices from the existing alternatives by utilizing systematic means to generate information concerning the decision environment and evaluate the range of decision alternatives in a logical, precise manner. Thus, management science includes a carefully constructed methodology for analysis. This methodology, which has been adapted from the natural sciences, is termed the *scientific method*.

The scientific method consists of a generally recognized set of steps. Whether these steps are followed in precisely the order described often depends on the nature of the problem being studied and the individuals performing the analysis. However, a basic premise of scientific analysis is a rigorous and careful approach to all phases of the analysis.

Observation

This first step of the scientific method is the continuing study of the system (organization) in an attempt to identify problems. It is essential that the management scientists be always alert for operational problems. When a problem is indicated, the management scientist must analyze it carefully as a basis for subsequent steps in the scientific method.

Definition of the Problem

Before solutions to a problem can be considered, an accurate definition of the problem must be formulated. It has often been reported by organizations that failure in problem solving has resulted from an incorrect definition of the problem.

In addition to defining the problem, this step includes identifying the possible *alternatives* available to management. Also, the *objectives*, or *goals*, of the system under analysis must be clearly defined. The stated objectives help to focus the attention of the analyst on the problem and its effects on the total organization. Finally, in order to evaluate the performance of a proposed solution, *measurement criteria*, such as cost or profit, must be specified.

立命館大学大学院理工学研究科（博士課程後期課程）

[外国語] 環境都市型

2.

「気候変動」に関する次の英文を全訳せよ

(出典：Energy and Climate in the Urban Built Environment,
Edited by M. Santamouris, James & James Ltd.)

It is recognized that the climate is continuously being changed and that this happens in several ways. Even a small variation in the solar radiation would be sufficient to affect the radiation and energy budget of the Earth's surface, owing to the resulting melting or increasing of the ice cover. Changes in the orbit of the Earth or movements of the continents give climate changes with time scales of more than 10,000 years. Eruptions of volcanoes have definite global impact, because of the emission into the atmosphere of a large number of particles that cause absorption or refraction into space of the solar radiation. Any change in one of the subsystems of the climate system can affect the behaviour of other subsystems, resulting in effects that may amplify or reduce the original change (feedback mechanisms).

There is also no doubt that man is capable of influencing climate through human activities of many different kinds. Thus, owing to the increase of the atmospheric content of carbon dioxide (industrialization), climatic change may occur as a result of global warming (the greenhouse effect) as there is increased absorption of infrared radiation in the atmosphere. Changes in ground cover (deforestation) or on the surface of the Earth (buildings, highways) are also important on a local scale, since they modify the albedo, the surface roughness, thermal and moisture behaviour etc.