

# ENGINEER OR TECHNICIAN

The definitions given below of the 'professional engineer' and the 'engineering technician' have been almost universally accepted throughout the British Commonwealth, the United States of America and Western Europe. It is pointed out by 'Engineering' that 'the disposition of a professional engineer lacks the directness and altruism of Tredgold's famous words - "The art of directing the great sources of power in Nature for the use and convenience of man."

## PROFESSIONAL ENGINEER

A professional engineer is competent, by virtue of his fundamental education and training, to apply the scientific method and outlook to the analysis and solution of engineering problems. He is able to assume personal responsibility for the development and application of engineering science and knowledge, notably in research, designing, construction, manufacture, superintending, managing and in the education of the engineer. His work is predominantly intellectual and varied, and not of a routine mental or physical character. It requires the exercise of original thought and judgement, and the ability to supervise the technical and administrative work of others.

His education will have been such as to make him capable of closely and continuously following progress in his branch of engineering science by consulting newly-published work on a world-wide basis, assimilating such information and applying it independently. He is thus placed in a position to make contributions to the development of engineering science or its applications.

His education and training will have been such that he will have acquired a broad and general appreciation of the engineering sciences, as well as a thorough insight into the special features of his own branch. In due time he will be able to give authoritative technical advice, and to assume responsibility for the direction of important tasks in his branch.

#### ENGINEERING TECHNICIAN

An engineering technician is one who can apply, in a responsible manner, proven techniques which are commonly understood by those who are expert in a branch of engineering, or those techniques specially prescribed by professional engineers.

Under general professional engineering direction, or following established engineering techniques, he is capable of carrying out duties which may be found among the list of examples set out below.

In carrying out many of these duties, competent supervision of the work of skilled craftsmen will be necessary. The techniques employed demand acquired experience and knowledge of a particular branch of engineering, combined with the ability to work out the details of a task in the light of well-established practice.

An engineering technician requires an education and training sufficient to enable him to understand the reasons for and purposes of the operations for which he is responsible.

The following duties are typical of those carried out by engineering technicians:

Working on design and development of engineering plant and structures ; erecting and commissioning of engineering equipment and structures ; engineering drawing ; estimating, inspecting and testing engineering construction and equipment ; use of surveying instruments ; operating, maintaining and repairing engineering machinery, plant and engineering services and locating defects therein ; activities connected with research and development, testing of materials and components ; and sales engineering, servicing equipment and advising consumers.

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