
Preface



In the name of ALLAH, the merciful, the compassionate Courtesy of Prof. Dr. Avni Morgül

Scholarly Science (al-ilm) is a term that is used to define all of the enlightening, guiding, and refreshing knowledge. It has two main branches as the definitive (explicit) sciences and probabilistic (implicit) sciences. The probabilistic sciences alone are frequently termed as positivistic sciences and the definitive (absolute) sciences are partly covered in theology. As such, science often means information obtained and tested with the scientific methods or general truths or applications of laws. In this context, science covers all the intellectual and practical work that deal with methods (experiments, observations, and thoughts) for understanding the structure and movement of the universe including a systematic examination of the physical and natural environments. Scientific attitude is to base the behavior of a person on scientific facts with all the assessments obtained through academic studies and methods. Technology can be defined as tangible and intangible assets produced by applying mental and physical efforts to obtain a value or to improve our abilities to change the world. Developments in science trigger technological advancements and progresses in technology also provide the infrastructure necessary for the development of science.

Science and Technology is currently taught as a college course in many universities. The course intends to introduce Science and Technology from Global and Historical Perspectives so that the reader shall stretch his/her vision by mapping the past to the future. However, it has been difficult to find a book that can be used comfortably in this course. The author of the book compiled lecture notes to cover the syllabus of such a course and later he drafted out the book based on these notes. The book starts with a moderately detailed treatment of basic concepts in science and technology. It continues with their historical developments including scientific outlook of some contributing scientists. The technical, social, and cultural dimensions are surveyed in relation to acquisition and application of science.

The book consists of eight chapters. Chapter 1 gives definitions and terms necessary to understand the rest of the book. Chapter 2 is related to the fundamentals of science where the recognition of the life, obligations, and position of the human being in the universe are assessed. It surveys the purpose of education, the role of the mind—wisdom, the main branches of education, need for trainers and the necessity of trained educators. It demonstrates with examples, the relationship between intellect (understanding) and intelligence, eight ways to learn and the relationship between intelligence and genetic diversity. Chapter 3 describes the aspects of scientific knowledge and inquiry. Research and design are evaluated in detail as two ways to earn and assess scientific knowledge and skills.

Chapter 4 covers the basic ways that must be followed for success in a scientific work; the efficient use of time and project planning. Chapter 5 tries to find out what technology is and its association with science; it compares the goals of science with the goals of technology. It provides a brief overview to the history of technology in chronological order. Chapter 6 summarizes the contributions of Muslim scientists to the technology. The role of Islam is considered as a universal religion with science in the context of Islamic civilization and culture. Science in medieval Islam, with special reference to the effects of High Caliphate on thought, is examined in detail. The contributions of prominent Muslim technologists are evaluated. Chapter 7 is an overview of the history of the modernization of the West. Agricultural developments in the process of European expansion, overseas journeys, the slave trade and reforms are scrutinized with their contributions. In the last chapter, technology and its effects are evaluated. Outlines of technological developments and technological advances are reviewed historically. Pros and cons of technological developments and issues related to technology transfer are critically debated in terms of their effects on human values and environment. Finally, outlines of the benefits and drawbacks of the educational technology are presented.

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