Official Textbooks for Huawei ICT Academy

CONSTRUCTION, OPERATION AND MAINTENANCE OF NETWORK SYSTEM(JUNIOR LEVEL)

Huawei Technologies Co., Ltd.

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Preface

The "1 + X" certificate system is an important reform initiative identified in the National Implementation Plan of Vocational Education Reform and an important innovation in the design of the vocational education system. The pilot project of "1 + X" certificate system for vocational colleges and applied undergraduate colleges is one of the important tasks to implement the National Implementation Plan. In order to help promote the smooth implementation of the vocational skill level standard for network system construction and operation and maintenance and help students pass the network system construction and operation and maintenance certification exam, Huawei Technologies Co., Ltd. (Huawei) organized the compilation of the textbooks (junior level, medium level, and advanced level) of network system construction and operation and maintenance. The preparation of the whole set of textbooks follows the rules of training and accumulation of specialized skills for professionals engaged in network system construction and operation and maintenance and incorporates professional competence, professionalism, and craftsmanship into the design of the books.

As a leading global information and communications technology (ICT) infrastructure and intelligent terminal provider, Huawei is known for developing products covering many fields such as data communication, security, wireless, storage, cloud computing, intelligent computing, and artificial intelligence. Based on the vocational skill standard (junior level) for network system construction and operation and maintenance established by the Ministry of Education, this book is complied with Huawei network product portfolio (routers, switches, wireless controllers, and wireless access points) as a platform, orienting the actual needs of network engineering projects in the industry. Hence, the features of this book are the following:

1. In compilation, this book follows the development law of skillful network talents, with equal emphasis on network knowledge transfer, network skill accumulation, and professionalism enhancement, in order to enable readers to fully prepare for the "1 + X" certification exam, while ensuring the accumulation of project

experience as well as knowledge learning and ability development, laying a solid foundation for adapting to future work positions.
2. In the target design, this book is practical, oriented to the "1 + X" certificate exam and the actual needs of enterprise networks, aiming to cultivate students' abilities to design network, to configure and debug network equipment, to analyze and solve problems, and to innovate.
3. In the selection of content, this book is based on the vocational skill level standard for network system construction and operation and maintenance and adheres to the principle of integrating advancement, scientificity, and practicality, covering the latest and most practical network technologies as far as possible.
4. In the form of content presentation, the book explains the theoretical knowledge of network technology in the simplest and most concise language, expounds network technologies in layers and steps based on detailed laboratory manuals, combines practical operations to help readers consolidate and deepen the principles of network technology learned, and summarizes and annotates the experimental results and phenomena.

As a teaching book, this book is recommended to take 46–66 h for study, with the reference study hours of each chapter as follows:

Theme	Reference hours
Chapter 1 General Operation Safety of Network System	4
Chapter 2 Cabling Engineering	6–8
Chapter 3 Hardware Installation in Network Systems	10–14
Chapter 4 Basic Knowledge of Network Systems	4–8
Chapter 5 Basic Operation of Network Systems	10–14
Chapter 6 Basic Operation and Maintenance of Network System	10–14
Course assessment	2–4
Total hours	46–66

This book is organized by Huawei Technologies Co., Ltd. and written by Ye Libing, Wu Yuexiang, Wang Sunan, and Dong Yueqiu from Shenzhen Polytechnic, with Ye Libing in charge of the final compilation, and it is technically supported and proofread by Changlong Yuan, Yueyue Lu, and Peng Liu of Huawei.

Due to the limited level and experience of the editors, inaccuracies and omissions in the book are inevitable, and readers are invited to criticize and correct them. For resources related to this book, readers can download at www.ryjiaoyu.com.

Hangzhou, China
December 2021

Huawei Technologies Co., Ltd.

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