In 2012, Personnel Training Publications began releasing an updated series of softcover, easy-to-use instructional booklets, titled *Programmed Instruction*, which covers the major nondestructive testing (NDT) methods, aimed at Level I and II practitioners, in accordance with *CP-105* (2011). A set of self-study manuals was originally prepared by General Dynamics Convair Division in cooperation with NASA’s Marshall Space Flight Center. Following the General Dynamics model, ASNT has published its own series of books that provides the latest information needed to become completely versed in each NDT method, and prepares candidates for method exams. A computer-assisted training program provides an interactive review of the material.

Chapter previews and summaries of key points include quiz questions interspersed throughout each chapter that monitor comprehension. Extended explanations of right/wrong answers to quiz questions are provided. There are extra review questions at the end of each chapter. In addition, the books offer more than 50 comprehensive multiple-choice questions per volume with reference pages for further review of missed questions.

The computer-assisted training program includes:
- easy-to-use navigation;
- clear learning objectives per lesson;
- streamlined slide content for steady progression through lessons.

Interactive quiz questions are provided for immediate feedback. In addition, there are links to previous slides, allowing a quick review of material for missed questions. Comprehensive self-tests give instant results along with areas missed for further study.

There are five different methods in the *Programmed Instruction* series:
- Radiographic Testing
- Ultrasonic Testing
- Electromagnetic Testing
- Liquid Penetrant Testing (available in 2014–2015)
- Magnetic Particle Testing (available in 2014–2015)

### Programmed Instruction Series: Radiographic Testing

The five-volume *Radiographic Testing* series was released in 2012 (Figure 1). It offers coverage of *CP-105* topical outlines for Levels I and II Radiographic Testing. There is a volume on radiographic safety and also material on digital radiography and computed radiography.

The volumes are broken down as follows.

**Volume I: Physics and Principles**, written for ASNT by Ramayya Ramakrishnan, presents an introduction to radiography; fundamental properties of matter; radioactive materials; types of radiation; interaction of radiation with matter; exposure devices and radiation sources; and radiological safety principles review.

**Volume II: Safety**, written by Kenneth Marshall, provides personnel safety and radiation protection; radiation survey instruments; radiation surveys and survey reports; radiographic work practices; safety and health issues; biological effects of radiation; exposure devices; emergency procedures; storage and shipment of exposure devices and sources; and state and federal regulations.

**Volume III: Making a Radiograph**, by Daniel J. Nichols, offers the reader basic principles of radiography; geometric exposure principles; radiographic image quality; use of screens and cassettes; radiographic film; math used in radiography; exposure techniques; fluoroscopic techniques; radiographic viewing; image quality indicators; and digital radiographic imaging.

**Volume IV: Processing and Imaging**, by Matthew Patience, covers film handling, loading and processing; film quality and manufacturing processes; darkroom facilities, techniques and processing; manual versus automatic film processing; film artifacts; film-handling technique; film filing and storage; film density; and digital and computed radiography.

**Volume V: Radiographic Interpretation**, also by Ramayya Ramakrishnan, goes over indications, discontinuities and defects; manufacturing...
processes and associated discontinuities; radiographic evaluation and interpretation of castings and weldments; standards, codes and procedures for radiography; and contains a glossary.

The Programmed Instruction CD includes bookmarked PDFs of print volumes and the RT computer-assisted training program. The training program is divided into 174 lessons that complement the material presented in the print volumes.

Programmed Instruction Series: Ultrasonic Testing
The books on ultrasonic testing (UT) were released in September 2013 (Figure 2). “These new Programmed Instruction series are a big step forward,” explained Senior Manager of ASNT Publications Tim Jones. “This series, which is the first [ASNT-produced] Programmed Instruction to cover UT, replaces publications that have since become outdated, while utilizing current technology to allow for more effective self-study and test preparation.”

Volume I: Ultrasonic Principles and Basic Techniques and Volume II: Ultrasonic Evaluation and Advanced Techniques were authored for ASNT by Huidong Gao.

A self-study review for Level I and II candidates, this series provides in-depth, up-to-date coverage of UT, including time of flight diffraction, phased array, electromagnetic acoustic transducers, laser UT and guided wave. A computer-assisted training program on the CD accompaniment provides an interactive review of the material in both print volumes.

Programmed Instruction Series: Electromagnetic Testing
Electromagnetic Testing was written for ASNT by Hussein M.A. Sadek and released in September 2013 (Figure 3).

A self-study review for Level I and II candidates, this volume provides in-depth, up-to-date coverage of electromagnetic testing, including eddy current, alternating current field measurement and remote field testing. A computer-assisted training program on the CD accompaniment provides an interactive review of the material in the print volume.