

NAVY ADVANCEMENT CENTER

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Advancement Handbook for Cryptologic Technician Maintenance (CTM)

This Advancement Handbook was developed in August 1999.

PREFACE

The purpose of the Advancement Handbook is to assist CTMs in preparing for Navywide advancement-in-rating examinations. The bibliographies (BIBs), together with this handbook, form a comprehensive examination study package. Since this handbook provides skill and knowledge components for each paygrade of the CTM rating, it helps focus study on those areas that will be tested. This feature ensures Sailors will get the most out of their study time.

Each page in Parts 1 through 4 of this Advancement Handbook presents general skill areas, specific skill areas, the knowledge factors associated with each skill area, the pertinent references required to perform each skill, and the types of subject areas you can expect on the examination. The skill statements describe the skills you are expected to perform for each paygrade. They are cumulative; that is, you are responsible for all the skills for the paygrade for which you are competing, your present paygrade, and all paygrades below.

Although this handbook is very comprehensive, it cannot cover all the tasks performed by CTMs. As a result, advancement examinations may contain questions more detailed than described in the "Exam Expectations" section of the skill areas.

Remember that advancement competition is keen, so your keys to advancement include not only comprehensive advancement examination study but also sustained superior performance.

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THE UNITED STATES NAVY

GUARDIAN OF OUR COUNTRY

The United States Navy is responsible for maintaining control of the sea and is a ready force on watch at home and overseas, capable of strong action to preserve the peace or of instant offensive action to win in war.

It is upon the maintenance of this control that our country's glorious future depends; the United States Navy exists to make it so.

WE SERVE WITH HONOR

Tradition, valor, and victory are the Navy's heritage from the past. To these may be added dedication, discipline, and vigilance as the watchwords of the present and the future.

At home or on distant stations, we serve with pride, confident in the respect of our country, our shipmates, and our families.

Our responsibilities sober us; our adversities strengthen us.

Service to God and Country is our special privilege. We serve with honor.

THE FUTURE OF THE NAVY

The Navy will always employ new weapons, new techniques, and greater power to protect and defend the United States on the sea, under the sea, and in the air.

Now and in the future, control of the sea gives the United States her greatest advantage for the maintenance of peace and for victory in war.

Mobility, surprise, dispersal, and offensive power are the keynotes of the new Navy. The roots of the Navy lie in a strong belief in the future, in continued dedication to our tasks, and in reflection on our heritage from the past.

Never have our opportunities and our responsibilities been greater.

CONTENTS

PARTS		PAGE
1	Advancement Handbook for CTM3.....	1-1
2	Advancement Handbook for CTM2.....	2-1
3	Advancement Handbook for CTM1.....	3-1
4	Advancement Handbook for CTMC	4-1
Appendix 1	References Used in This Advancement Handbook.....	A-1

Part 1

Advancement Handbook for CTM3

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Information Systems (IS) Support
A <i>skill</i> you are expected to perform from the General Skill Area above:	Assemble computer systems. Configure computer systems and components.
<i>Knowledge</i> you should have to perform this skill:	• Computer assembly from case, power supply, motherboard, disk drive, etc. • Fixed disk interface types • Fixed disk formatting procedures • Floppy disk types and specifications • Cabling requirements • Interface types and specifications • Interrupt assignments
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Applicable manufacturer's manuals • ET Volume 6 • NEETS Module 13 • NEETS Module 14
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to general computer and component theory and operation; assembling a computer from components; disk types and interfaces; common peripherals; cabling; and configuration of assembled computer.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Information Systems (IS) Support
<i>A skill</i> you are expected to perform from the General Skill Area above:	Perform preventive maintenance on computer systems and components. Troubleshoot, repair, and replace computer systems and components.
<i>Knowledge</i> you should have to perform this skill:	• Preventive maintenance procedures • Computer system and component troubleshooting, repair, and replacement procedures
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Applicable manufacturer's manuals • ET Volume 6 • NEETS Module 13 • NEETS Module 14 • OPNAVINST 4790.4
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to preventive maintenance, troubleshooting, repair, and replacing of computers and components.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Information Systems (IS) Support
<i>A skill</i> you are expected to perform from the General Skill Area above:	Configure and troubleshoot computer system interfaces.
<i>Knowledge</i> you should have to perform this skill:	Configuration and troubleshooting of: • Printer interfaces • Fixed disk interfaces • Floppy disk interfaces • CD-ROM interfaces • Monitor/display interfaces
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Applicable manufacturer's manuals • ET Volume 6 • NEETS Module 13
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect basic questions relating to configuration and troubleshooting of common computer components and peripheral interfaces.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Information Systems (IS) Support
<i>A skill</i> you are expected to perform from the General Skill Area above:	Perform file maintenance procedures.
<i>Knowledge</i> you should have to perform this skill:	• Procedures to copy, move and delete files • File extensions (jpg, txt, bak, dat, etc.) • Data archive/backup procedures • Directory verification • File properties
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Applicable manufacturer's manuals and software help files • ET Volume 6 • RM Training Series Module 2
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect general questions relating to common file maintenance procedures including copy, move, delete, file extension types, data archive, verifying directories, and file properties.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Information Systems (IS) Support
<i>A skill</i> you are expected to perform from the General Skill Area above:	Install, configure, and troubleshoot computer operating system software and computer application software.
<i>Knowledge</i> you should have to perform this skill:	• Operating system (DOS, UNIX, Windows 95/98/NT, etc.) software installation procedures • Operating system software configuration procedures • Operating system software troubleshooting procedures • Application software (Word, Excel, Lotus Notes, etc.) installation procedures • Application software configuration procedures • Application software troubleshooting procedures
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Applicable software help files • Applicable manufacturer's manuals • NETG Course 12089 • NETG Course 12327 • Other application-specific NETG courses • RM Training Series Module 3
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect basic questions relating to the installation, configuration, and troubleshooting of computer operating system and application software.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Information Systems (IS) Support
<i>A skill</i> you are expected to perform from the General Skill Area above:	Interpret computer diagnostic software results.
<i>Knowledge</i> you should have to perform this skill:	• Load and run computer diagnostic software • Interpret results of diagnostic software
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Applicable software help files • Applicable manufacturer's manuals
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on loading, running, and interpreting results of diagnostic software.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Information Systems (IS) Support
<i>A skill</i> you are expected to perform from the General Skill Area above:	Write and modify computer programs, batch files, and shell scripts.
<i>Knowledge</i> you should have to perform this skill:	• Computer programming • Batch file programming • Shell script programming
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Applicable manufacturer's manuals • NETG Course 12327 • NETG Course 12777 • RM Training Series Module 2
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect basic and general questions relating to writing and modifying computer programs, batch files, and shell scripts.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Security
A <i>skill</i> you are expected to perform from the General Skill Area above:	Inspect, clean, test, troubleshoot, repair, and replace security systems and components.
<i>Knowledge</i> you should have to perform this skill:	Basic maintenance procedures for: • Access control card readers • Balanced magnetic switches • Cipher locks • Intrusion alarms • Motion detectors • Video cameras
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Applicable manufacturer's manuals • Applicable PMS MIP/MRC documentation • DCID 1/21 • NSGTP Module 11 • NSGTP Module 29 • SECNAVINST 5510.36
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect general questions relating to basic maintenance of security systems and components listed under <i>Knowledge</i> .

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Security
A <i>skill</i> you are expected to perform from the General Skill Area above:	Change locking device combinations.
<i>Knowledge</i> you should have to perform this skill:	• Combination change requirements and procedures for vaults, security containers, and high-security combination padlocks
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Applicable manufacturer's manuals • NSGTP Module 11 • SECNAVINST 5510.36
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to types of locks, periodicity requirements for changing combinations, preferred combinations, recording combinations, and required combinations when locks are taken out of service.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Security
<i>A skill</i> you are expected to perform from the General Skill Area above:	Mark and handle classified material using security classification designations. Mark and handle SCI material using SCI categories. Label IS media with security classification designations.
<i>Knowledge</i> you should have to perform this skill:	• Marking and handling requirements and procedures for classified material • Marking and handling requirements and procedures for SCI material • Labeling requirements and procedures for IS media
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• DOD 5105.21-M-1 • Joint DODIIS/Cryptologic SCI Information Systems Security Standards • NAVSUPP to DOD 5105.21-M-1 • NSGTP Module 11 • SECNAVINST 5510.36
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to locations for marking security classification and SCI category designations on classified material including IS media, and general handling requirements and procedures for classified and SCI material.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Security
<i>A skill</i> you are expected to perform from the General Skill Area above:	Perform routine and emergency destruction of classified and SCI material.
<i>Knowledge</i> you should have to perform this skill:	• Requirements and procedures for routine destruction of classified/SCI material • Requirements and procedures for emergency destruction of classified/SCI material
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• NSGINST 5510.7 • NSGTP Module 11 • SECNAVINST 5510.36
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to routine and emergency destruction requirements, preferred means of destruction, witness requirements, and drills.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Security
<i>A skill</i> you are expected to perform from the General Skill Area above:	Perform daily security checks of workstations and security checks of equipment/material prior to removal from SCIF. Run security check software on magnetic media prior to removal from classified spaces.
<i>Knowledge</i> you should have to perform this skill:	• Requirements and procedures for performing daily security check of workstations • Requirements and procedures for performing security check of equipment and material prior to removal from SCIF • Requirements and procedures for running security software on magnetic media prior to removal from classified spaces
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• DCID 1/21 • DOD 5105.21-M-1 • Joint DODIIS/Cryptologic SCI Information Systems Security Standards • NAVSUPP to DOD 5105.21-M-1 • NSGTP Module 11 • SECNAVINST 5510.36
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to the requirements and procedures for performing security checks of workstations, security checks on equipment prior to its removal from classified spaces, and software security check on IS media.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Security
<i>A skill</i> you are expected to perform from the General Skill Area above:	Account for COMSEC material using local holder CMS regulations.
<i>Knowledge</i> you should have to perform this skill:	• Requirements and regulations for CMS local holders
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• CMS-1A
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect basic and general questions relating to CMS local holder requirements and regulations.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Security
A <i>skill</i> you are expected to perform from the General Skill Area above:	Perform classified material inventories.
<i>Knowledge</i> you should have to perform this skill:	• Types and classifications of material which must be inventoried • Periodicity requirements • Means of recording inventories
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• DOD 5105.21-M-1 • NAVSUPP to DOD 5105.21-M-1 • NSGTP Module 11 • SECNAVINST 5510.36
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to what type of classified material is required to be inventoried, who should conduct the inventory, required frequency of inventory, and means of recording completion of the inventory.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Communications
<i>A skill</i> you are expected to perform from the General Skill Area above:	Establish and altroute communications circuits. Troubleshoot communications paths.
<i>Knowledge</i> you should have to perform this skill:	• General troubleshooting procedures • General communications theory • Primary communications paths • Alternate communications paths • Satellite communications • Multiplexing • Networking
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• ET Volume 3 • Local SOPs • NEETS Modules 1 through 14, 16, 17, 21 through 24 • NSGTP Module 20 • RM Training Series Modules 3 through 5
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect basic questions relating to communications theory and architecture, and general troubleshooting of communications circuits.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Communications
A <i>skill</i> you are expected to perform from the General Skill Area above:	Prepare messages for transmission.
<i>Knowledge</i> you should have to perform this skill:	• GENADMIN format • Pro forma format • Message precedence • PLAs, CADs, and AIGs
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• NTP3(J) • NSGINST 4000.1 • NWP 1-03.1
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to message drafting and preparation including formats for GENADMIN and pro forma/CASREP messages, message precedence, and message addressing.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	General Installation
<i>A skill</i> you are expected to perform from the General Skill Area above:	Fabricate, install, inspect, and test cables, wiring, and RF transmission lines.
<i>Knowledge</i> you should have to perform this skill:	• Procedures for fabricating, installing, inspecting, and testing cables (fiber-optic, coaxial, UTP, 10BASE5, etc.) • Procedures for installing, inspecting, and testing wiring (multi-pair signal wire, a/c power, etc.) • Procedures for installing, inspecting, and testing RF transmission lines
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• MIL-STD-2042A(SH) • Navy Installation and Maintenance Book (NIMB) Installation Standards • NEETS Module 4 • NEETS Module 24 • NSGINST 2450.1
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to cable, fiber-optic, and wiring types, applications of the various types, connectors, shielding and grounding, and installation techniques.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	General Installation
<i>A skill</i> you are expected to perform from the General Skill Area above:	Install and remove cryptologic carry-on program equipment, cryptologic direct support equipment, shore electronic equipment, physical security equipment, network equipment, workstations, and peripherals.
<i>Knowledge</i> you should have to perform this skill:	• Site preparation techniques • Bay and cabinet installation techniques • Wiring techniques • A/c power distribution • General installation techniques • Specialized installation techniques • EMI/RFI/EMC • Disposition procedures for removed equipment
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• MIL-HDBK-232A • MIL-STD-2042A(SH) • Navy Installation and Maintenance Book (NIMB) Installation Standards • NEETS Module 4 • NEETS Module 24 • NSGINST 2450.1 • NSGINST 4000.1
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to installation standards for CCOP, CDSE, and shore electronic equipment including site prep, bays and cabinets, general signal and power wiring, grounding, and EMI/RFI/EMC; and disposition of excess/removed equipment.

Advancement Handbook for CTM3~

General CTM3 <i>Skill Area</i>	General Installation
<i>A skill</i> you are expected to perform from the General Skill Area above:	Complete minor scope installation. Complete minor scope installation documentation. Perform acceptance testing.
<i>Knowledge</i> you should have to perform this skill:	• Procedures governing minor scope installations • Assistance available for minor scope installations • Documentation required for minor scope installations • Acceptance testing of completed installations
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• NSGINST 2450.1 • NSGINST 4000.1
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to the authorization required to commence minor scope installations, procedures for performing minor scope installations, minor scope installation documentation, and acceptance testing for completed installations.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Cryptologic Electronic Maintenance
<i>A skill</i> you are expected to perform from the General Skill Area above:	Clean, inspect, test, troubleshoot, repair, and replace cryptologic electronic equipment.
<i>Knowledge</i> you should have to perform this skill:	Operational theory and maintenance techniques for: • Air filters • Amplifiers • Antennas • Telephone switches • Circuit boards • Cryptologic devices • Demodulators • Demultiplexers • Digital tape drives • Earphones/headsets • Electronic chassis (VME/VXI, etc.) • Equipment cabinets • Equipment cooling fans • Frequency standards • Magnetic tape recorders • Master clocks • Modems • Multicouplers • Patch panels • Power supplies • Printers • Receivers • Cryptologic carry-on program systems • Cryptologic direct support systems • Collection systems • Special projects systems

Advancement Handbook for CTM3

Continued

General CTM3 <i>Skill Area</i>	Cryptologic Electronic Maintenance
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Applicable manufacturer's manuals • Electronics Installation and Maintenance Book - Electronic Circuits • Electronics Installation and Maintenance Book - General Maintenance • NEETS Modules 1 through 14, 16, 17, 19 through 24 • OPNAVINST 4790.4
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to general electronics theory, electronic component design, schematic reading, and maintenance questions from each of the equipment listed under <i>Knowledge</i> .

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	General Maintenance
<i>A skill</i> you are expected to perform from the General Skill Area above:	Test uninterruptible power supplies (UPS).
<i>Knowledge</i> you should have to perform this skill:	• Types of UPS • Basic UPS theory • UPS switch gear • Testing periodicity requirements • Testing procedures
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Applicable manufacturer's manuals • NSGINST 4000.1 • NSGINST 11310.1
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to basic UPS theory, operation, and applications, UPS testing requirements, and UPS testing procedures.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	General Maintenance
<i>A skill</i> you are expected to perform from the General Skill Area above:	Inspect, test, and replace batteries.
<i>Knowledge</i> you should have to perform this skill:	• Types of batteries • Applications for battery types • Safety precautions when dealing with batteries • Battery charging procedures • Battery testing procedures • Battery disposal procedures
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Electronics Installation and Maintenance Book - General • NEETS Module 1 • NSGINST 4000.1 • NSGTP Module 29
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to types and applications of batteries, battery-specific safety precautions, charging procedures for the various types, testing procedures, and disposal procedures and precautions for failed batteries.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	General Maintenance
<i>A skill</i> you are expected to perform from the General Skill Area above:	Clean, inspect, and lubricate paper shredders.
<i>Knowledge</i> you should have to perform this skill:	• Basic maintenance procedures for paper shredders
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Applicable manufacturer's manuals • Applicable PMS MIP/MRC
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to basic maintenance procedures for shredders.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	General Maintenance
<i>A skill</i> you are expected to perform from the General Skill Area above:	Test utility power distribution systems.
<i>Knowledge</i> you should have to perform this skill:	• Utility power distribution techniques • Utility power testing procedures
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Applicable manufacturer's manuals • NSGINST 4000.1 • NSGINST 11310.1 • NSGTP Module 29
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect basic and general questions relating to testing of utility power distribution systems.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	General Maintenance
<i>A skill</i> you are expected to perform from the General Skill Area above:	Label power distribution system components. Inspect labeling.
<i>Knowledge</i> you should have to perform this skill:	• Requirements for labeling of power distribution system panels, breakers, and equipment cabinets
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• NSGINST 2450.1 • NSGINST 4000.1 • NSGINST 11310.1
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to labeling requirements for power distribution system panels, breakers, and equipment cabinets.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Test Equipment
<i>A skill</i> you are expected to perform from the General Skill Area above:	Verify calibration of test equipment; perform test equipment functional checks.
<i>Knowledge</i> you should have to perform this skill:	• Procedures for verifying calibration of test equipment. • Basic operation of test equipment including: • Multimeters • Oscilloscopes • Time-domain reflectometers • Signal generators • Power meters
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Applicable manufacturer's manuals • NEETS Module 16 • NEETS Module 21 • NSGINST 4000.1
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to basic theory and operation of common electronic test equipment (GPETE/SPETE), and how to verify whether or not test equipment calibration is current.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Cryptologic Maintenance Administration
A <i>skill</i> you are expected to perform from the General Skill Area above:	Generate and update maintenance watch supervisor (MWS) logs using the Naval Security Group Maintenance Management System (NMMS). Initiate, update, complete, and review NMMS electronic logs (E-logs). Review NMMS shop logs. Record PMS actions using NMMS.
<i>Knowledge</i> you should have to perform this skill:	• NMMS MWS log procedures • NMMS E-log procedures • NMMS shop log procedures
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• NMMS User's Guide • NSGINST 4000.1
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect general questions relating to procedures for using the MWS log, E-log, and shop log portions of the NMMS program.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Logistics
A <i>skill</i> you are expected to perform from the General Skill Area above:	Inventory spares and consumables.
<i>Knowledge</i> you should have to perform this skill:	• Pre-expended item cost limits • Spare parts custody/subcustody requirements • Required intervals for inventories
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• NSGINST 4000.1 • NSGTP Module 29
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to dollar cost limitations on pre-expended material, quantity of pre-expended material that can be retained onboard, accountability and custody or subcustody requirements for spare parts, and minimum inventory intervals.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Logistics
A <i>skill</i> you are expected to perform from the General Skill Area above:	Perform Equipment Reporting and Registration Tracking System (ERRTS) inventories.
<i>Knowledge</i> you should have to perform this skill:	• Differences between minor property, ERRTS-reportable electronic equipment, and plant property • ERRTS inventory requirements and procedures
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• NSGINST 4000.1
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to the differences between minor, plant, and ERRTS-reportable property, required intervals for performing ERRTS inventories, and general procedures for conducting ERRTS inventories.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Logistics
A <i>skill</i> you are expected to perform from the General Skill Area above:	Use integrated logistic support plan (ILSP), integrated logistic support summary (ILSS), and user logistic support summary (ULSS).
<i>Knowledge</i> you should have to perform this skill:	• General purpose and content of ILSP, ILSS, and ULSS documents
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• NSGINST 4000.1
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect basic questions relating to the purpose and content of ILSP, ILSS, and ULSS documents.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Safety
<i>A skill</i> you are expected to perform from the General Skill Area above:	Review hazardous material (HAZMAT) user's guide and material data safety sheets (MSDS).
<i>Knowledge</i> you should have to perform this skill:	• Purpose and content of HAZMAT User's Guide • Purpose and content of MSDS
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• NSGINST 4000.1 • NSGINST 4110.1 • NSGTP Module 29 • OPNAVINST 4110.2 • OPNAVINST 5100.23
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect general questions relating to the purpose and content of HAZMAT User's Guide and MSDS.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Network Maintenance
<i>A skill</i> you are expected to perform from the General Skill Area above:	Test, troubleshoot, and replace Global Telecommunications System (GTS/ GCS) and components. Install, configure, and adjust Integrated Digital Network Exchange (IDNX).
<i>Knowledge</i> you should have to perform this skill:	• Basic GTS/GCS architecture and theory • General GTS/GCS troubleshooting • Basic IDNX architecture and theory • General IDNX installation and configuration
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Applicable manufacturer's manuals • Local SOP
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect general, basic questions relating to the architecture, testing, and troubleshooting of GTS/GCS and IDNX.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Network Maintenance
<i>A skill</i> you are expected to perform from the General Skill Area above:	Test communications media.
<i>Knowledge</i> you should have to perform this skill:	• Communications media concepts • Media types and applications (T1, T3, ISDN, ATM, OC3, etc.) • Media testing procedures
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Applicable manufacturer's manuals • NETG Course 12768
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect general questions relating to basic communications media concepts, media applications, and media testing.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Network Maintenance
<i>A skill</i> you are expected to perform from the General Skill Area above:	Test, troubleshoot, and replace network systems and components.
<i>Knowledge</i> you should have to perform this skill:	• General network concepts and theory (topology, protocols, etc.) • Network hardware concepts and theory (bridges, routers, hubs, concentrators, gateways, etc.) • Basic network troubleshooting
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Applicable manufacturer's manuals and software help files • ET Volume 3 • ET Volume 6 • NETG Course 12754 • NETG Course 12755 • NETG Course 12760 • NETG Course 12761 • NETG Course 12762 • NETG Course 12763 • NETG Course 12767 • NETG Course 12768 • NETG Course 12771 • NSGTP Module 29 • RM Training Series Module 3
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly	You can expect questions relating to network architecture and topology, network components and capabilities of those components, and basic network testing and troubleshooting.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Network Maintenance
<i>A skill</i> you are expected to perform from the General Skill Area above:	Evaluate network system performance.
<i>Knowledge</i> you should have to perform this skill:	• Network design specifications and design-related performance parameters • Data throughput and bandwidth parameters • Common network choke points • Evaluation of network compared to parameters
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Applicable manufacturer's manuals and software help files • ET Volume 3 • ET Volume 6 • NETG Course 12754 • NETG Course 12755 • NETG Course 12760 • NETG Course 12761 • NETG Course 12762 • NETG Course 12763 • NETG Course 12765 • NETG Course 12767 • NETG Course 12768 • NETG Course 12771 • RM Training Series Module 3
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect general and basic questions relating to network design and performance parameters, prediction of network problems, and evaluation of network performance.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Network Maintenance
<i>A skill</i> you are expected to perform from the General Skill Area above:	Install, configure, and troubleshoot network system software.
<i>Knowledge</i> you should have to perform this skill:	• General types of network operating systems (NOS) • Capabilities of common NOS software • Installation procedures for common NOS • Configuration of common NOS • Troubleshooting techniques for common NOS
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Applicable manufacturer's manuals and software help files • ET Volume 3 • ET Volume 6 • NETG Course 12754 • NETG Course 12755 • NETG Course 12760 • NETG Course 12761 • NETG Course 12762 • NETG Course 12763 • NETG Course 12767 • NETG Course 12768 • NETG Course 12771 • Other NOS-specific NETG courses • RM Training Series Module 3
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect general and basic questions relating to the various types of NOS, capabilities of common NOS types, and installation, configuration and troubleshooting of common NOS software.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Information Assurance
<i>A skill</i> you are expected to perform from the General Skill Area above:	Install and configure firewalls.
<i>Knowledge</i> you should have to perform this skill:	• Purpose of firewalls • Types and capabilities of firewalls • Firewall installation procedures • Firewall configuration
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Applicable manufacturer's manuals and software help files. • NETG Course 12764 • RM Training Series Module 3
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to the purpose of firewalls, types and capabilities of firewalls, and firewall installation and configuration.

Advancement Handbook for CTM3

General CTM3 <i>Skill Area</i>	Information Assurance
<i>A skill</i> you are expected to perform from the General Skill Area above:	Perform IS virus countermeasures.
<i>Knowledge</i> you should have to perform this skill:	• Types of malicious code • Distribution of malicious code and agents of infection • Detection of malicious code • Elimination of malicious code
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Joint DODIIS/Cryptologic SCI Information Systems Security Standards • NETG Course 12764 • NSGTP Module 11 • NSGTP Module 29
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to malicious code including logic bombs, trojan horses, viruses, and worms, how malicious code spreads and infects, and detection and elimination of malicious code.

Part 2

Advancement Handbook for CTM2

Advancement Handbook for CTM2

General CTM2 <i>Skill Area</i>	Security
A <i>skill</i> you are expected to perform from the General Skill Area above:	Prepare security violation reports.
<i>Knowledge</i> you should have to perform this skill:	• Reportable security violations: practices dangerous to security, inadvertent disclosures, and compromises • Investigation of violations • Preparing and forwarding security violation reports
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• DOD 5105.21-M-1 • NAVSUPP to DOD 5105.21-M-1 • NSGTP Module 11 • SECNAVINST 5510.36
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect general questions relating to types of security violations, investigations required for violations, reports required for violations, and forwarding of completed reports.

Advancement Handbook for CTM2

General CTM2 <i>Skill Area</i>	General Installation
<i>A skill</i> you are expected to perform from the General Skill Area above:	Create and update installation task files; update station drawings.
<i>Knowledge</i> you should have to perform this skill:	• Types of installation tasks: minor scope, formal, QRC, etc. • Task numbering system format • Installation responsibilities: station forces, IMD, OIMD, etc. • General content of installation planning documents: site survey checklist, installation check-off list, equipment disposition, station drawings, red-line drawings, etc. • Task acceptance message
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• NSGINST 2450.1 • NSGINST 4000.1 • NSGTP Module 29
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to the basic types of installations, task numbering system, installation responsibilities, and the documentation required during each phase of installation planning and completion.

Advancement Handbook for CTM2

General CTM2 <i>Skill Area</i>	Cryptologic Electronic Maintenance
<i>A skill</i> you are expected to perform from the General Skill Area above:	Configure and replace bridges and routers.
<i>Knowledge</i> you should have to perform this skill:	• Function and capability of bridges and routers • Configuration of bridges and routers to suit local requirements • Replacement of defective bridges and routers
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• ET Volume 3 • NETG Course 12754 • NETG Course 12755 • NETG Course 12761 • NETG Course 12762 • NSGTP Module 29 • RM Training Series Module 3
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect basic and general questions relating to types and capabilities of bridges and routers, bridge/router configuration, and bridge/router replacement.

Advancement Handbook for CTM2

General CTM2 <i>Skill Area</i>	Cryptologic Electronic Maintenance
A <i>skill</i> you are expected to perform from the General Skill Area above:	Install field changes.
<i>Knowledge</i> you should have to perform this skill:	• Types and classes of field changes • Field change accomplishment priorities • Recording field change completion
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Electronic Installation and Maintenance Book - General • NSGTP Module 29
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to the different types and classes of equipment field changes, priorities for accomplishment of field changes, and recording completed field changes.

Advancement Handbook for CTM2

General CTM2 <i>Skill Area</i>	Cryptologic Maintenance Administration
A <i>skill</i> you are expected to perform from the General Skill Area above:	Draft common cryptologic maintenance administrative reports.
<i>Knowledge</i> you should have to perform this skill:	• Procedures and requirements for drafting: • Parts support requests • Technical assistance requests • Missing, lost, stolen, or recovered (MLSR) reports • Equipment status reports • NMMS reports
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• NSGINST 4000.1 • NSGTP Module 29
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect (a) detailed questions relating to the requirements for and (b) general questions relating to the procedures for drafting each of the reports listed under <i>Knowledge</i> .

Advancement Handbook for CTM2

General CTM2 <i>Skill Area</i>	Cryptologic Maintenance Administration
<i>A skill</i> you are expected to perform from the General Skill Area above:	Review and update local Job Qualification Requirements (JQRs).
<i>Knowledge</i> you should have to perform this skill:	• Required JQRs • JQR format procedures • JQR content
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• NSGINST 1543.3 • NSGINST 4000.1 • NSGTP Module 29
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to required JQRs, JQR formatting, and JQR content.

Advancement Handbook for CTM2

General CTM2 <i>Skill Area</i>	Safety
<i>A skill</i> you are expected to perform from the General Skill Area above:	Conduct and review HAZMAT inventories.
<i>Knowledge</i> you should have to perform this skill:	• HAZMAT storage requirements • HAZMAT inventory periodicity requirements • HAZMAT inventory procedures
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• NSGINST 4000.1 • NSGINST 4110.1 • NSGTP Module 29 • OPNAVINST 4110.2 • OPNAVINST 5100.23
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to HAZMAT storage and inventory requirements, and HAZMAT inventory procedures.

Advancement Handbook for CTM2

General CTM2 <i>Skill Area</i>	Cryptologic Maintenance Management
<i>A skill</i> you are expected to perform from the General Skill Area above:	Schedule equipment maintenance downtime with local operations personnel.
<i>Knowledge</i> you should have to perform this skill:	• Purpose and requirements for equipment maintenance downtime • Scheduling of downtime
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Local SOP • NSGINST 4000.1 • OPNAVINST 4790.4
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect general questions relating to the purpose, requirements, and procedures for scheduling equipment downtime.

Advancement Handbook for CTM2

General CTM2 <i>Skill Area</i>	Cryptologic Maintenance Management
<i>A skill</i> you are expected to perform from the General Skill Area above:	Manage equipment installation and removal.
<i>Knowledge</i> you should have to perform this skill:	• Installation roles and responsibilities: station forces, IMD, OIMD, etc. • Content of installation planning documents and installation task files • General installation standards • Requirements for installation certification and task acceptance • Equipment removal and disposition procedures
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Navy Installation and Maintenance Book (NIMB) Installation Standards • NSGINST 2450.1 • NSGINST 4000.1 • NSGTP Module 29
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect detailed questions relating to all phases of installation task management, most notably those areas listed under <i>Knowledge</i> .

Advancement Handbook for CTM2

General CTM2 <i>Skill Area</i>	Cryptologic Maintenance Management
A <i>skill</i> you are expected to perform from the General Skill Area above:	Implement electrostatic discharge (ESD) prevention programs.
<i>Knowledge</i> you should have to perform this skill:	• Causes and effects of ESD • ESD prevention and control • Approved ESD workstations • ESD qualifications • Ordering ESD control supplies
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• DOD-HDBK-263 • NSGINST 4000.1 • NSGTP Module 29
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to the causes and effects of ESD, prevention and control of ESD, approved ESD workstations, ESD qualifications, obtaining ESD control gear, and spot-checking local ESD control procedures.

Advancement Handbook for CTM2

General CTM2 <i>Skill Area</i>	Network Maintenance
<i>A skill</i> you are expected to perform from the General Skill Area above:	Perform IS/network operating system security functions.
<i>Knowledge</i> you should have to perform this skill:	• Common types of IS/network threats: malicious code, unauthorized access, intrusion, etc. • Analyzing IS/network threats • IS/network threat detection procedures • Effecting IS/network threat countermeasures • Monitoring IS/network threat countermeasures
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Joint DODIIS/Cryptologic SCI Information Systems Security Standards • NETG Course 12764 • NSGTP Module 29 • RM Training Series Module 3
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to common types of IS/network threats, analyzing and detecting IS/network threats, and procedures for performing and monitoring IS/network threat countermeasures.

Part 3

Advancement Handbook for CTM1

Advancement Handbook for CTM1

General CTM1 <i>Skill Area</i>	Security
A <i>skill</i> you are expected to perform from the General Skill Area above:	Prepare classified material destruction records.
<i>Knowledge</i> you should have to perform this skill:	• Types and classifications of material for which destruction records are required • Authorized destruction techniques • Approved destruction record format • Destruction witness requirements • Minimum period for retention of destruction records
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• CMS-1A • DOD 5105.21-M-1 • Joint DODIIS/Cryptologic SCI Information Systems Security Standards • NAVSUPP to DOD 5105.21-M-1 • NSGTP Module 11 • SECNAVINST 5510.36
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to what types of material require destruction records, authorized destruction methods, format for destruction records, witnessing records, and how long records should be retained.

Advancement Handbook for CTM1

General CTM1 <i>Skill Area</i>	Security
A <i>skill</i> you are expected to perform from the General Skill Area above:	Develop Emergency Action Plan (EAP).
<i>Knowledge</i> you should have to perform this skill:	• Purpose of EAP • Types of emergencies and safeguarding, securing, relocating, or destruction of material • EAP requirements • Phases of destruction • Methods of destruction • Emergency destruction bill • Required EAP training and drills
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• DOD 5105.21-M-1 • NAVSUPP to DOD 5105.21-M-1 • NSGINST 5510.7 • NSGTP Module 11
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect detailed questions relating to all areas of the EAP including its purpose, types of emergencies and associated actions, phases and methods of destruction, the emergency destruction bill, and required EAP training and drill.

Advancement Handbook for CTM1

General CTM1 <i>Skill Area</i>	Security
A <i>skill</i> you are expected to perform from the General Skill Area above:	Draft, review, and update Sensitive Compartmented Information Facility (SCIF) accreditation packages.
<i>Knowledge</i> you should have to perform this skill:	• Purpose of SCIF accreditation • Accreditation authorities • Accreditation procedures • Accreditation package content • Interim accreditation • Reaccreditation requirements
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• DCID 1/21 • DOD 5105.21-M-1 • NAVSUPP to DOD 5105.21-M-1
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to the purpose of SCIF accreditation, accreditation authorities, procedures and package content, interim accreditation, and reaccreditation requirements.

Advancement Handbook for CTM1

General CTM1 <i>Skill Area</i>	Communications
<i>A skill</i> you are expected to perform from the General Skill Area above:	Download message traffic. Review message precedence for appropriate action.
<i>Knowledge</i> you should have to perform this skill:	• Types and classes of messages: GENADMIN and pro forma; GENSER and SI, etc. • Message precedence speed-of-service objectives
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• NSGINST 4000.1 • NSGTP Module 29 • NTP3(J) • NWP 1-03.1
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to the various types, classes, and paths for Naval messages, message precedence, and associated speed-of-service objectives.

Advancement Handbook for CTM1

General CTM1 <i>Skill Area</i>	General Installation
<i>A skill</i> you are expected to perform from the General Skill Area above:	Review TETON installation planning documents (TIPD). Document acceptance testing.
<i>Knowledge</i> you should have to perform this skill:	• TETON organization: roles and responsibilities of IMD, OIMD, etc. • Common installation planning documents and associated content • Task acceptance message • Installation acceptance testing procedures and responsibilities • Task completion message
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• NSGINST 2450.1 • NSGINST 4000.1 • NSGTP Module 29
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to the roles and responsibilities under the TETON umbrella and all areas of the installation planning and acceptance documentation process

Advancement Handbook for CTM1

General CTM1 <i>Skill Area</i>	General Maintenance
<i>A skill</i> you are expected to perform from the General Skill Area above:	Test critical power distribution systems.
<i>Knowledge</i> you should have to perform this skill:	• Purpose of critical power • Critical power sources (UPS, motor-generators, etc.) • Maximum critical power loading • Testing requirements • Testing procedures
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Applicable manufacturer's manuals • Applicable PMS MIP/MRC • NSGINST 4000.1 • NSGINST 11310.1 • NSGTP Module 29
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to critical power purpose and sources, maximum loading, testing periodicity requirements, and testing procedures.

Advancement Handbook for CTM1

General CTM1 <i>Skill Area</i>	Test Equipment
<i>A skill</i> you are expected to perform from the General Skill Area above:	Administer metrology and calibration (METCAL) program requirements. Identify and replace obsolete test equipment.
<i>Knowledge</i> you should have to perform this skill:	• Purpose and function of METCAL • METCAL program structure: MTRs and FCAs • MEASURE system recall procedures • Calibration recall and inventory system (CRIS) procedures • Identification of obsolete test equipment • Replacement procedures for obsolete test equipment
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• MIL-STD-1364 • NAVSEA ST000-AA-IDX-010/PEETE • NSGINST 4000.1 • OPNAV 43P6A
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to each of the areas listed under <i>Knowledge</i> .

Advancement Handbook for CTM1

General CTM1 <i>Skill Area</i>	Cryptologic Maintenance Administration
<i>A skill</i> you are expected to perform from the General Skill Area above:	Create, update, and review NAVSECGRU training records. Draft training reports.
<i>Knowledge</i> you should have to perform this skill:	• Required format and content of NAVSECGRU training records • Recording PQS/JQR completion • Service record page 4 training entries • Required training reports
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• NSGINST 1500.1 • NSGINST 1543.3 • NSGINST 4000.1
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to the format and content of NAVSECGRU training records, how and where to record training, making service record training entries, and required training reports.

Advancement Handbook for CTM1

General CTM1 <i>Skill Area</i>	Cryptologic Maintenance Management
<i>A skill</i> you are expected to perform from the General Skill Area above:	Coordinate cryptologic direct support element (CDSE) equipment installation and removal.
<i>Knowledge</i> you should have to perform this skill:	• Typical fleet organization • Sources for assistance • General shipboard installation practices
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Applicable FLTCINC guidance • Applicable manufacturer's manuals • MIL-STD-1310F • MIL-STD-2042A(SH) • NSGINST 4000.1
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect general and basic questions relating to CDSE installation including the areas listed under <i>Knowledge</i> .

Advancement Handbook for CTM1

General CTM1 <i>Skill Area</i>	Information Assurance
<i>A skill</i> you are expected to perform from the General Skill Area above:	Draft and update information systems (IS) accreditation packages.
<i>Knowledge</i> you should have to perform this skill:	• Purpose of IS accreditation • Accreditation authorities • Accreditation procedures • Accreditation package content • Interim accreditation • Reaccreditation requirements
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Joint DODIIS/Cryptologic SCI Information Systems Security Standards • NSA/CSS Manual 130-1
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to the purpose of IS accreditation, accreditation authorities, accreditation package procedures and content, interim accreditation, and reaccreditation requirements.

Part 4

Advancement Handbook for CTMC

Advancement Handbook for CTMC

General CTMC <i>Skill Area</i>	Security
A <i>skill</i> you are expected to perform from the General Skill Area above:	Review and verify classified material destruction records.
<i>Knowledge</i> you should have to perform this skill:	• Types and classifications of material for which destruction reports are required • Authorized destruction techniques • Approved destruction record format • Witness requirements • Minimum period for retention of destruction records
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• CMS-1A • DOD 5105.21-M-1 • Joint DODIIS/Cryptologic SCI Information Systems Security Standards • NAVSUPP to DOD 5105.21-M-1 • NSGTP Module 11 • SECNAVINST 5510.36
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to what types of material require destruction records, means of destruction, destruction record format, and destruction witness requirements.

Advancement Handbook for CTMC

General CTMC <i>Skill Area</i>	Security
<i>A skill</i> you are expected to perform from the General Skill Area above:	Review security violation reports. Implement, review, and monitor physical security programs.
<i>Knowledge</i> you should have to perform this skill:	• Security violation report format and forwarding requirements • Physical security requirements for classified and SCI material including: • Facility/structure building requirements • Intrusion alarm requirements • Personnel access control • Escort procedures for uncleared personnel • Physical security training
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• DOD 5105.21-M-1 • NAVSUPP to DOD 5105.21-M-1 • NSGTP Module 11 • SECNAVINST 5510.30 • SECNAVINST 5510.36
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to security violation report format and forwarding requirements and questions dealing with all aspects of physical security programs listed in <i>Knowledge</i> .

Advancement Handbook for CTMC

General CTMC <i>Skill Area</i>	General Installation
<i>A skill</i> you are expected to perform from the General Skill Area above:	Perform site surveys.
<i>Knowledge</i> you should have to perform this skill:	• Source power, environmental controls, and related requirements • General installation standards • Site survey checklist content • Installation POA&M and related message requirements
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Navy Installation and Maintenance Book (NIMB) Installation Standards • NSGINST 2405.1 • NSGINST 4000.1 • NSGTP Module 29
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to all phases of site surveys listed including site preparation, installation standards, site survey checklist content, and required site survey documentation.

Advancement Handbook for CTMC

General CTMC <i>Skill Area</i>	Test Equipment
<i>A skill</i> you are expected to perform from the General Skill Area above:	Review calibration laboratory accreditation (certification) documentation.
<i>Knowledge</i> you should have to perform this skill:	• FCA certification procedures • FCA certification scheduling and periodicity requirements • Certification checklist content
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• NAVSEAINST 4734.1 • NSGINST 4000.1 • ST700-AM-GYD-10/METCAL
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect question relating to calibration lab certification procedures, certification scheduling, and content of the certification checklist.

Advancement Handbook for CTMC

General ~ <i>Skill Area</i>	Cryptologic Maintenance Administration
A <i>skill</i> you are expected to perform from the General Skill Area above:	Review NMMS reports.
<i>Knowledge</i> you should have to perform this skill:	• Purpose and content of NMMS reports including: • Out-of-commission list • Current Station Maintenance Project (CSMP) • E-log reports • Supply requisition reports
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• NMMS Software User's Guide • NSGINST 4000.1
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to the purpose and content of various NMMS reports including the out-of-commission list, CSMP, E-log reports, and supply requisition reports.

Advancement Handbook for CTMC~

General CTMC <i>Skill Area</i>	Cryptologic Maintenance Administration
<i>A skill</i> you are expected to perform from the General Skill Area above:	Review and update Position Equipment Indicator (POEI) listings.
<i>Knowledge</i> you should have to perform this skill:	• Purpose of POEI as it relates to manpower planning • Change procedures for local POEI listing
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• NSGINST 4000.1 • USSID 402 • USSID 403
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to the relationship between POEI and manpower, and POEI update/change requirements.

Advancement Handbook for CTMC

General CTMC <i>Skill Area</i>	Cryptologic Maintenance Administration
<i>A skill</i> you are expected to perform from the General Skill Area above:	Draft interservice support agreements (ISSAs).
<i>Knowledge</i> you should have to perform this skill:	• Purpose of ISSA • Content of ISSA • ISSA approval authorities
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• NSGINST 4000.1 • NSGTP Module 29 • OPNAVINST 4000.84
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect general questions relating to the purpose and content of the ISSA and ISSA approval authorities.

Advancement Handbook for CTMC

General CTMC <i>Skill Area</i>	Safety
<i>A skill</i> you are expected to perform from the General Skill Area above:	Inspect HAZMAT storage areas.
<i>Knowledge</i> you should have to perform this skill:	• HAZMAT storage requirements • HAZMAT storage precautions
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• NSGINST 4000.1 • NSGINST 4110.1 • NSGTP Module 29 • OPNAVINST 4110.2 • OPNAVINST 5100.23
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to the requirements and precautions for HAZMAT storage.

Advancement Handbook for CTMC

General CTMC <i>Skill Area</i>	Cryptologic Maintenance Management
<i>A skill</i> you are expected to perform from the General Skill Area above:	Manage common cryptologic maintenance functions.
<i>Knowledge</i> you should have to perform this skill:	• Requirements and procedures to manage common cryptologic maintenance functions including: • Maintenance of electronic systems • System operational evaluations • Review of OPORDS and OPLANS in support of CDSE systems • Coordination of mission requirements with external commands • Installation and removal of equipment
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Applicable FLTCINC guidance • NSGINST 2450.1 • NSGINST 4000.1 • OPNAVINST 4790.4
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect general questions relating to the management of common cryptologic maintenance functions including those listed in <i>Knowledge</i> .

Advancement Handbook for CTMC

General CTMC <i>Skill Area</i>	Network Maintenance
A <i>skill</i> you are expected to perform from the General Skill Area above:	Plan network system integration.
<i>Knowledge</i> you should have to perform this skill:	• Common network topologies and architecture • Common network protocol • Common network interface specifications • Network security requirements
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Applicable manufacturer's manuals • ET Volume 3 • Joint DODIIS/Cryptologic SCI Information Systems Security Standards • NETG Course 12754 • NETG Course 12755 • NETG Course 12761 • NETG Course 12762 • NETG Course 12763 • NETG Course 12764
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions relating to general network design specifications, network interoperability concepts, and network security.

Advancement Handbook for CTMC

General CTMC <i>Skill Area</i>	Information Assurance
<i>A skill</i> you are expected to perform from the General Skill Area above:	Manage Information Operations/Information Warfare (IO/IW) operations. Review IS accreditation packages.
<i>Knowledge</i> you should have to perform this skill:	• IS/network security requirements • IS/network threats • IS/network accreditation procedures • IS/network accreditation package content
<i>References</i> you should study to gain the knowledge you need to perform this skill:	• Joint DODIIS/Cryptologic SCI Information Systems Security Standards • NSA Manual 130-1 • NSGTP Module 11 • SECNAVINST 5510.30 • SECNAVINST 5510.36
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect general questions relating to each of the areas listed under <i>Knowledge</i> .

Appendix 1

References Used in This Advancement Handbook

DCID 1/21

Physical Security Standards for Sensitive Compartmented Information Facilities (SCIF)

DOD 5105.21-M-1

Sensitive Compartmented Information Administrative Security Manual

CMS-1A

Communications Security Material System (CMS) Policy and Procedures Manual

Electronics Installation and Maintenance Book - Electronic Circuits
(Formerly EIMB NAVSEA 0967-LP-000-0120)

* See Note 1

Electronics Installation and Maintenance Book - General
(Formerly EIMB NAVSEA SE000-00-EIM-100)

* See Note 1

Electronics Installation and Maintenance Book - General Maintenance
(Formerly EIMB NAVSEA SE000-01-EIM-160)

* See Note 1

ET Volume 3

Electronics Technician Volume 3 - Communications Systems, NAVEDTRA 12413-A

ET Volume 6

Electronics Technician Volume 6 - Digital Data Systems, NAVEDTRA 12416-A

Joint DODIIS/Cryptologic SCI Information Systems Security Standards

MIL-HDBK-232A
RED/BLACK Engineering Installation Guidelines

MIL-HDBK-263B
Electrostatic Discharge Control Handbook for Protection of Electrical and Electronic Parts, Assemblies, and Equipments

MIL-STD-1310F
Shipboard Bonding, Grounding, and Other Techniques for Electromagnetic Compatibility and Safety
* See Note 1

MIL-STD-1364 (Navy)
Standard General Purpose Test Equipment

MIL-STD-2042A (SH)
Fiber Optic Cable Topology Installation Standard Methods For Naval Ships
* See Note 1

NAVSEA ST000-AA-IDX-010/PEETE
Portable Electrical/Electronic Test Equipment Index

NAVSEAINST 4734.1
Metrology and Calibration (METCAL) Program

NAVSUPP to DOD 5105.21-M-1
Navy Department Supplement to Sensitive Compartmented Information Security Manual

NEETS Module 1
Introduction to Matter, Energy, and Direct Current, NAVEDTRA B72-01-00-92
** See Note 2

NEETS Module 2
Introduction to Alternating Current and Transformers, NAVEDTRA 172-02-00-91
** See Note 2

NEETS Module 3

Introduction to Circuit Protection, Control, and Measurement, NAVEDTRA B72-03-00-93

** See Note 2

NEETS Module 4

Introduction to Electrical Conductors, Wiring Techniques and Schematic Reading, NAVEDTRA B72-04-0092

** See Note 2

NEETS Module 5

Introduction to Generators and Motors, NAVEDTRA B72-05-00-94

** See Note 2

NEETS Module 6

Introduction to Electronic Emission, Tubes, and Power Supplies, NAVEDTRA B72-06-00-92

** See Note 2

NEETS Module 7

Introduction to Solid-State Devices and Power Supplies, NAVEDTRA B72-07-00-92

** See Note 2

NEETS Module 8

Introduction to Amplifiers, NAVEDTRA 172-08-00-82

** See Note 2

NEETS Module 9

Introduction to Wave-Generation and Wave-Shaping Circuits, NAVEDTRA 172-09-00-83

** See Note 2

NEETS Module 10

Introduction to Wave Propagation, Transmission Lines, and Antennas, NAVEDTRA B72-10-00-93

** See Note 2

NEETS Module 11

Microwave Principles, NAVEDTRA 172-11-0087

** See Note 2

NEETS Module 12

Modulation Principles, NAVEDTRA 172-12-00-83

** See Note 2

NEETS Module 13

Introduction to Number Systems and Logic Circuits, NAVEDTRA B72-13-00-94

** See Note 2

NEETS Module 14

Introduction to Microelectronics, NAVEDTRA 172-14-00-84

** See Note 2

NEETS Module 16

Introduction to Test Equipment, NAVEDTRA B72-16-00-96

** See Note 2

NEETS Module 17

Radio Frequency Communications Principles, NAVEDTRA 172-17-00-84

** See Note 2

NEETS Module 19

The Technician's Handbook, NAVEDTRA B72-19-00-92

** See Note 2

NEETS Module 20

Master Glossary and Index, NAVEDTRA 172- 20-00-85

** See Note 2

NEETS Module 21

Test Methods and Practices, NAVEDTRA B72-21-00-87

** See Note 2

NEETS Module 22
Introduction to Digital Computers, NAVEDTRA B72-22-00-88
** See Note 2

NEETS Module 23
Magnetic Recording, NAVEDTRA B72-23-00-91
** See Note 2

NEETS Module 24
Introduction to Fiber Optics, NAVEDTRA B72-24-00-92
** See Note 2

NETG Course 12089
PCs and Application Software Introduction

NETG Course 12327
UNIX Fundamentals

NETG Course 12754
Networking Foundations - Part 1

NETG Course 12755
Networking Foundations - Part 2

NETG Course 12760
Networking Technologies: FDDI

NETG Course 12761
Networking Technologies: Internet Routing Protocols - Part 1

NETG Course 12762
Networking Technologies: Internet Routing Protocols - Part 2

NETG Course 12763
Networking Technologies: Multivendor Networks

NETG Course 12764
Networking Technologies: Network Security

NETG Course 12765
Networking Technologies: Data Integrity

NETG Course 12767
Networking Technologies: Broadband Networks

NETG Course 12768
Networking Technologies: Computer Telephony

NETG Course 12771
Networking Technologies: TCP/IP Concepts

NETG Course 12777
UNIX Shell Programming

Navy Installation and Maintenance Book (NIMB) Installation Standards
* See Note 1

NMMS User's Guide

NSA/CSS Manual 130-1
NSA/CSS Operational Computer Security Manual

NSGINST 1500.1
Professional Training for Cryptologic Technicians

NSGINST 1543.3
NAVSECGRU Job Qualification Requirements (JQR) Program

NSGINST 2450.1
Shore Electronics Criteria

NSGINST 4000.1
NAVSECGRU Logistics Management Manual

NSGINST 4110.1
Hazardous Material Control and Management (HMC&M) Program

NSGINST 5510.7

Command Guidance for Emergency Action Plans

NSGINST 11310.1

Power Systems Utilization

NSGTP Module 11

SCI Security and Emergency Destruction, NSGTP 683-11-00-98

NSGTP Module 20

Technical Control, NSGTP 683-20-00-94

NSGTP Module 29

CTM Core Elements, NSGTP 683-29-00-98

NTP3(J)

Telecommunications Users Manual

NWP 1-03.1

Operational Reports

OPNAV 43P6A

Metrology Automated System for Uniform Recall and Reporting
(MEASURE) Users Manual

OPNAVINST 4000.84A

Defense Regional Interservice Support (DRIS) Program

OPNAVINST 4110.2

Hazardous Material Control and Management (HMC&M)

OPNAVINST 4790.4

Ships' Maintenance and Material Management (3-M) Manual

OPNAVINST 5100.23

Navy Occupational Safety and Health Program Manual

RM Training Series Module 2
Computer Systems, NAVEDTRA 12846

RM Training Series Module 3
Network Communications, NAVEDTRA 12847

RM Training Series Module 4
Communications Hardware, NAVEDTRA 12848

RM Training Series Module 5
Communications Center Operations, NAVEDTRA 12849

SECNAVINST 5510.30A
Department of the Navy Personnel Security Program

SECNAVINST 5510.36
Department of the Navy (DON) Information Security Program (ISP)
Regulation

ST700-AM-GYD-10/METCAL
Metrology and Calibration (METCAL) Laboratory Requirements and
Certification Guide

USSID 402

USSID 403

* **Note 1:** Available on Navy Installation and Maintenance Book CD-ROM,
SE000-01-IMB-010

****Note 2:** Available in hardcopy or on NEETS CD-ROM, NAVEDTRA
11100