NEW YORK NAVAL MILITIA

PERSONNEL QUALIFICATION STANDARD

For

MILITARY EMERGENCY BOAT SERVICE

CRAFTMASTER

NYNMINST 3501.2

NAME (Rate/Rank) _____

(02/16)

STATE OF NEW YORK
DIVISION OF MILITARY AND NAVAL AFFAIRS
NEW YORK NAVAL MILITIA
330 OLD NISKAYUNA ROAD, LATHAM, NEW YORK 12110

NYNMINST 3501.2
MAR 3 0 2016

NEW YORK NAVAL MILITIA INSTRUCTION 3501.2

Subj: MILITARY EMERGENCY BOAT SERVICE CRAFTMASTER PERSONNEL QUALIFICATION STANDARD

Ref: (a) NYNMINST 5401.1 (series)
(b) NYNMINST 3120.1 (series)
(c) NTTP 3-20.6.29M/COMDTINST M3120.18/MCWP 3-35.8
(d) NAVEDTRA 43911-A (Tactical Vessel Operator)
(e) NASBLA Boat Operations

Encl: (1) PQS for Military Emergency Boat Service CRAFTMASTER

1. Purpose. This instruction establishes the qualification designation of Military Emergency Boat Service CRAFTMASTER, and promulgates the Personnel Qualification Standard (PQS) for members to attain this designation.

2. Discussion. A Craftmaster is a member who is fluent and competent in all facets of small craft operations. Whereas a qualified coxswain is an individual who has demonstrated the minimum standards and ability to operate a vessel underway, while keeping passengers, the vessel and others safe while doing so; a Craftmaster must be able to conduct all manner of vessel operations, including towing, navigating, operating electronics, and much more.

2. Background. References (a) and (b) provide organizational and operational guidance for MEBS. Due to the close relationship between MEBS training and U.S. Navy/Coast Guard training, utilization of reference (c), the combined Tactical Boat Operations publication is a ready reference and source document. Increased cooperation between U.S. Navy, and U.S. Coast Guard small boat units and MEBS is a benefit for both organization. To that end, training standards will mirror each other to the extent practical. This PQS uses references (d) and (e) as foundation documents. References to U.S. Navy, Coast Guard and other relevant training documents are made throughout.

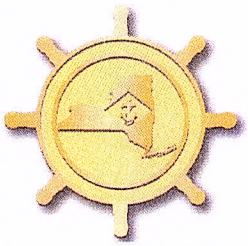
3. Action. MEBS members seeking to become designated as a Craftmaster must complete the requirements found in enclosure (1), including passing a final oral board established at the direction of the Commander, MEBS.

a. Commander MEBS shall designate persons eligible to sign individual line items. Members already qualified as a MEBS

Craftmaster may sign all lines for which they are already qualified, depending on their propulsion system qualification track.

b. Propulsion system track option. Members seeking full qualification have the option of using the outboard engine track (System 203-A), or the diesel engine track (System 203-B). They may also qualify in both tracks. Outboard engine track candidates must also complete trailer-towing qualifications (Watchstation 305).

4. Qualification Device. Members who have met the requirements of the PQS and oral board are authorized to wear the MEBS Craftmaster device on their Naval Militia uniform. Only members authorized by Commander, MEBS are authorized wear of the MEBS Craftmaster device. The device, in either golden metal or cloth-embroidered form is shown here:



TEN EYCK B. POWELL, III

PERSONNEL QUALIFICATION STANDARDS

MEBS CRAFTMASTER

TABLE OF CONTENTS

PERSONNEL QUALIFICATION STANDARDS

MEBS CRAFTMASTER

INTRODUCTION

APPLICABILITY

This PQS is applicable to Military Emergency Boat Service. Most of the individual line items relate to items found in the U.S. Navy NAVEDTRA 43911-A (*Tactical Craft Operations PQS)*, and/or in the *NASBLA Boat Operations and Training; Volume 2* (Boat Crewmember Qualification-BCM). The correlating lines are found in parentheses next to the individual task, listing either "NAVEDTRA" or "BCM."

CONTENTS

PQS is divided into three sections. The 100 Section (Fundamentals) contains the basic knowledge from technical manuals and other texts necessary to satisfactorily understand the watchstation duties. The 200 Section (Systems) is designed to acquaint you with the systems you will be required to operate. The 300 Section (Watchstations) lists the tasks you will be required to satisfactorily perform in order to achieve final PQS qualification.

ACRONYMS USED IN THIS PQS

Not all acronyms or abbreviations used in this PQS are defined here.

AIS	Automatic Identification System
ANN	Annex
ANT	Antenna
AO	Area of Operations
APP	Appendix
BRG	Bearing
CH	Chapter
CO	Commanding Officer
CPO	Chief Petty Officer
CPR	Cardiopulmonary Resuscitation
EBL	Electronic Bearing Line
EPIRB	Emergency Position Indicator Radio Beacon
GPS	Global Positioning System
HAZMAT	Hazardous Materials
HF	High Frequency
KHz	Kilohertz
MEDEVAC	Medical Evacuation
MHz	Megahertz
MMSI	Maritime Mobile Service Identity
NASBLA	National Association of State Boating Law Administrators
NAV	Navigation
NAVEDTRA	Naval, Education, Training

OIC	Officer in Charge
ORM	Operational Risk Management
PFD	Personnel Flotation Device
PG	Page
PIM	Plan of intended movement
POS	Position
PQS	Personnel Qualification Standards
REF	Reference
RPM	Revolutions per Minute
SAR	Search and Rescue
SITREP	Situation Report
SME	Subject Matter Expert
SOP	Standing Operating Procedures
SOG	Speed Over Ground
TACON	Tactical Control
TX	Transmit
UHF	Ultra-high Frequency
USCG	United States Coast Guard
USMC	United States Marine Corps
USN	United States Navy
VHF	Very High Frequency
WPT	Waypoint
WX	Weather
XMIT	Transmit

100 FUNDAMENTALS

101 SAFETY FUNDAMENTALS

References:

(a) NSTM S9086-TX-STM-010/CH-583 (Series), Boats and Small Craft
(b) OPNAVINST 3500.39 (Series), Operational Risk Management
(c) OPNAVINST 5100.19 (Series), Navy Occupational Safety and Health (NAVOSH) Program
(d) Manufacturers Technical Manual
(e) USCG COMDTINST M16114.5C, Boat Crew Seamanship Manual
(f) MEBS TECHMAN for Boat Class
(g) NYNMINST 3120.1(series) MEBS Standing Operating Procedures
(h) NTTP 3-20 6.29M, Tactical Boat Operations

A. Discuss the concept of ORM. (NAVEDTRA 101.1)

(Signature and Date) _____/_____

B. Explain the following processes as they apply to ORM: (NAVEDTRA 101.2)

1. Identify hazards
2. Assess hazards
3. Make risk decisions
4. Implement controls
5. Supervise

(Signature and Date) _____/_____

C. Discuss the safety precautions for: (NAVEDTRA 101.3)

1. Heavy Weather
2. Safety devices
3. Use of tools
4. Working on energized equipment
5. Personal Protective Equipment
6. Lines and Line Handling

(Signature and Date) _____/_____

D. Discuss the safety precautions to be observed during boat operations in regard to: (NAVEDTRA 101.4)

1. Launch and recovery
2. Fueling
3. Boat Operations
4. Boat Handling Systems

(Signature and Date) _____/_____

E. State the safety precautions to be observed when working on or around machinery. (NAVEDTRA 101.5)

(Signature and Date) _____/_____

F. State the requirements for wearing approved flotation devices aboard the patrol boat. Don the personal flotation device (PFD) (NAVEDTRA 101.6)
(BCM-02-04-ANY)
(BCM-02-14-ANY)

1. Demonstrate proper donning of the Type III PFD and adjust for proper fit.
2. State when the Type III PFD is required to be worn.
3. Don the Inflatable PFD
4. State the requirements and proper methods for maintenance and stowage of the inflatable PFD.
5. State when float coats and bibs are required for wear.
6. Don the float coat and bibs ensemble.

(Signature and Date) _____/_____

G. State the purpose and use of the emergency shutdown/kill switch.
(NAVEDTRA 101.7)

(Signature and Date) _____/_____

H. Discuss the fire hazards on a small boat.
(NAVEDTRA 101.9)

(Signature and Date) _____/_____

I. Discuss the potential dangers in each of the following evolutions and the appropriate safeguards for each: (NAVEDTRA 101.10)

1. Anchoring
2. Towing
3. High-speed maneuvering
4. Heavy weather
5. Thunderstorm/Ice
6. Launching/recovering a boat at a ramp

7. Launching/recovering a boat with a sling

(Signature and Date) _____/_____

J. Discuss the dangers and appropriate safeguards for: (NAVEDTRA 101.11)

1. Extreme cold weather operations
2. Extreme hot weather operations

(Signature and Date) _____/_____

K. Discuss the danger of crew fatigue and ways to prevent it. (NAVEDTRA 101.12)

(Signature and Date) _____/_____

L. Discuss how to avoid hazardous material (HAZMAT) spills, and the actions to be taken in the event of a HAZMAT event. (NAVEDTRA 101.14)

(Signature and Date) _____/_____

M. Discuss the following safety factors as it relates to small boats: (NAVEDTRA 101.15)

1. Physical Fitness
2. Motion Sickness
3. Lethal Fumes
4. Noise
5. Drugs and Alcohol

(Signature and Date) _____/_____

102 BASIC DAMAGE CONTROL FUNDAMENTALS

References:

(a) NSTM S9086-S3-STM-010/CH-555V1R9, Vol. 1, Surface Ship Firefighting
(b) NAVEDTRA 14057-PPR, Damage Controlman
(c) NSTM S9086-CN-STM-020/CH-079V2R2, Vol. 2, Damage Control
(d) MEBS TECHMAN for Boat Class

A. Identify the Different Classes of Fires, State the Fuel Sources, and State the Extinguishing (BCM-07-16)

1. State most common fuels for Class A fires, and state the primary extinguishing agent for a Class A fire.
2. State most common fuels for Class B fires, and state the primary extinguishing agent for a Class B fire.
3. State most common source for Class C fires, and state the primary extinguishing agent for a Class C fire.
4. State most common fuels for Class D fires, and state the primary agents for containing a Class D fire.

(Signature and Date) _____/_____

B. Explain the following extinguishing agents:

(NAVEDTRA 102.1)

1. Water
2. ABC

(Signature and Date) _____/_____

C. Locate and Identify the Firefighting Equipment Carried Onboard the Boat

(BCM-07-17-TYPE)

1. Identify and state the purpose of the installed fire pump and controls.
2. Identify and state the purpose of the portable fire pump(s).
3. Identify and state the purpose of all fire hoses.
4. Identify and state the purpose and capabilities of the nozzle.
5. Identify and state the purpose of the fixed extinguishing system.
6. Identify and state the purpose of all CO2 fire extinguishers.
7. Identify and state the purpose of all dry chemical extinguishers.

(Signature and Date) _____/_____

D. Demonstrate Knowledge of the Operation of a Dry Chemical Fire Extinguisher (BCM-07-19-ANY)

1. Check fill cap for tightness.
2. Identify and explain removal of the locking pin from the cutter assembly.
3. Explain how puncture lever is pushed down, and why this is done.
4. Approach fire from the windward side.
5. Remain at least 8 FT from the fire.
6. Point extinguisher at base of fire, explain discharge procedure.

(Signature and Date) _____/_____

E. Explain isolating the source for each of the following: (NAVEDTRA 102.2)

1. Electrical power
2. Fuel systems
3. Mechanical systems

(Signature and Date) _____/_____

F. Discuss the initial actions and fire attack procedures. (NAVEDTRA 102.3)

(Signature and Date) _____/_____

G. Discuss the direct and indirect methods of firefighting. (NAVEDTRA 102.4)

(Signature and Date) _____/_____

H. Discuss the following as applied to fires and firefighting: (NAVEDTRA 102.5)

1. Conditions that must exist for spontaneous combustion to take place
2. Four classes of fires and how each class of fire is extinguished
3. Three ways heat can be transmitted
4. Use of horizontal and vertical fire boundaries to control the spread of fire

(Signature and Date) _____/_____

I. Discuss the basic principles for overhauling a fire.
(NAVEDTRA 102.7)

(Signature and Date) _____/_____

103 FIRST AID FUNDAMENTALS

References:

(a) NAVEDTRA 14295, Hospital Corpsman
(b) NTRP 4-02.1.1, First Aid
(c) NAVEDTRA 14235, Seabee Combat Handbook, Volume 2

A. State the purpose of first aid.
(NAVEDTRA 103.1)

(Signature and Date) _____/_____

B. Discuss the following steps in initial evaluation of a victim:
(NAVEDTRA 103.2)

1. Assess the situation
2. Keep patient lying down
3. Identify the injuries
4. Check for consciousness
5. Check breathing
6. Check pulse
7. Check for injuries

(Signature and Date) _____/_____

C. Discuss the possible causes for the following injuries:
(NAVEDTRA 103.3)

1. Asphyxiation
2. Hemorrhage (bleeding)
3. Cardiac arrest
4. Fractures
5. Burns
6. Shock

(Signature and Date) _____/_____

D. Define and discuss the following types of fractures:
(NAVEDTRA 103.4)

1. Simple (closed)
2. Compound (open)

(Signature and Date) _____/_____

E. Discuss the signs and symptoms of fractures.
(NAVEDTRA 103.5)

(Signature and Date) _____/_____

F. Explain the treatment for the following types of fractures: (NAVEDTRA 103.6)

1. Arm (upper and lower)
2. Leg (upper and lower)
3. Jaw
4. Nose
5. Skull
6. Spine
7. Rib
8. Shoulder

(Signature and Date) _____/_____

G. Discuss the following types of bleeding: (NAVEDTRA 103.7)

1. Arterial
2. Venous

(Signature and Date) _____/_____

H. Discuss the following treatment for bleeding: (NAVEDTRA 103.8)

1. Direct pressure
2. Pressure Dressing
3. Indirect pressure (pressure points)
4. Tourniquet

(Signature and Date) _____/_____

I. Discuss the symptoms and treatment of shock. (NAVEDTRA 103.9)

(Signature and Date) _____/_____

J. Discuss the symptoms and treatment for the following types of burns: (NAVEDTRA 103.10)

1. First degree
2. Second degree
3. Third degree

(Signature and Date) _____/_____

K. Discuss the treatment for chemical burns. (NAVEDTRA 103.11)

(Signature and Date) _____/_____

L. Discuss the treatment for the following types of wounds: (NAVEDTRA 103.12)

1. Chest wounds
2. Abdominal wounds
3. Head wounds
4. Eye injuries
5. Facial Wounds

(Signature and Date) _____/_____

M. Discuss the following methods of transporting a victim: (NAVEDTRA 103.13)

1. Stokes stretcher
2. Blanket drag
3. Fireman carry
4. 4-handed seat carry
5. Tied-hands carry
6. Pack-strap carry

(Signature and Date) _____/_____

N. Define and discuss the causes, symptoms and treatment for: (NAVEDTRA 103.14)

1. Heat stroke
2. Heat exhaustion
3. Heat cramps

(Signature and Date) _____/_____

O. Define and discuss the causes, symptoms and treatment for: (NAVEDTRA 103.15)

1. Hypothermia
2. Frost Bite

(Signature and Date) _____/_____

P. Discuss the procedures for MEDEVAC of personnel casualties. (NAVEDTRA 103.16)

(Signature and Date) _____/_____

104 LIFE SAVING AND SURVIVAL FUNDAMENTALS

References:

(a) USCG COMDTINST M16114.5C, Boat Crew Seamanship Manual
(b) NAVEDTRA 14325, Basic Military Requirements

A. Discuss the fundamentals of survival swimming.
(NAVEDTRA 104.1)

(Signature and Date) _____/_____

B. Explain how to use personal clothing for flotation.
(NAVEDTRA 104.2)

(Signature and Date) _____/_____

C. Describe the types and uses of personal survival:
(NAVEDTRA 104.4)

1. Personal Floatation Device
2. Hypothermia Protective Clothing
3. Headgear
4. Boat Crew Signal Kit
5. Pyrotechnics

(Signature and Date) _____/_____

D. Discuss the actions and responsibility of each crewmember during a man overboard. (NAVEDTRA 104.5)

(Signature and Date) _____/_____

E. Discuss the procedures involved in recovering a person from the water. (NAVEDTRA 104.6)

(Signature and Date) _____/_____

F. Discuss emergency procedures in the event of boat capsizing.
(NAVEDTRA 104.7)

(Signature and Date) _____/_____

105 CREWMAN FUNDAMENTALS

References:

(a) NAVEDTRA 12968, Lookout Training Handbook
(b) NAVEDTRA 14343, Boatswain's Mate
(c) USCG Navigation Rules and Regulations Handbook
(d) NTTP 3-20.6.29M, Tactical Boat Operations
(e) NAVEDTRA 14222, Information Systems Technician Training - MOD 1

A. Discuss the types and uses of visual detection equipment available on a craft. (NAVEDTRA 105.1)

(Signature and Date) _____/_____

B. Explain how to adjust binoculars for your vision. (NAVEDTRA 105.2)

(Signature and Date) _____/_____

C. Discuss the proper use and care of binoculars. (NAVEDTRA 105.3)

(Signature and Date) _____/_____

D. Discuss the following visual search procedures: (NAVEDTRA 105.4)

1. Surface Search
2. Sky Searching
3. Dark Adaptation
4. Night Techniques

(Signature and Date) _____/_____

E. Discuss the role and actions of the lookout in a man overboard situation. (NAVEDTRA 105.5)

(Signature and Date) _____/_____

F. Discuss the signals used by a vessel in duress. (NAVEDTRA 105.6)

(Signature and Date) _____/_____

G. Explain how to use a contact's navigation lights to determine its target angle. (NAVEDTRA 105.7)

(Signature and Date) _____/_____

H. Discuss the running lights shown by a vessel underway. (NAVEDTRA 105.8)

(Signature and Date) _____/_____

I. Discuss the meaning of the following lights and shapes displayed by a vessel: (NAVEDTRA 105.9)

1. Vessel Engaged in Fishing
2. Vessel Not under Command
3. Pilot Vessel
4. Vessel at Anchor
5. Vessel Aground
6. Vessel Restricted in Ability to Maneuver
7. Vessel Engaged in Dredging

(Signature and Date) _____/_____

J. Describe the following types of buoys: (NAVEDTRA 105.10)

1. Can
2. Nun
3. Spar
4. Lighted

(Signature and Date) _____/_____

K. Describe the characteristics of buoys, day shapes used as channel markers. (NAVEDTRA 105.11)

(Signature and Date) _____/_____

L. Discuss the guidelines for ship recognition and identification. (NAVEDTRA 105.18)

(Signature and Date) _____/_____

M. Define the color, range and arc of visibility for the following lights: (NAVEDTRA 105.20)

1. Forward masthead
2. Aft masthead ("range" light)
3. Starboard running light
4. Port running light
5. Stern light
6. All around lights
7. Flashing light
8. Special flashing light
9. Towing light

(Signature and Date) _____/_____

N. Discuss the special lights and day shapes for vessels engaged in the following activities: (NAVEDTRA 105.21)

1. Towing astern
2. Towing alongside
3. Pushing tow ahead
4. Restricted maneuverability
5. Fishing
6. Trawling
7. Not under command
8. Diving
9. Mine countermeasures
10. Vessel constrained by draft
11. Pilot vessel
12. Anchored vessel
13. Vessel a ground

(Signature and Date) _____/_____

O. Define the following sound signals and how long they are sounded: (NAVEDTRA 105.22)

1. Prolonged blast
2. Bell
3. Gong
4. Short blast

(Signature and Date) _____/_____

P. Explain the following sound signals as used by a vessel in inland waters: (NAVEDTRA 105.23)

1. One short blast
2. Two short blasts
3. Three short blasts
4. Five or more short blasts
5. Two prolonged and one short blast
6. Two prolonged and two short blasts
7. One prolonged, one short, one prolonged, one short blast

(Signature and Date) _____/_____

Q. State the optional signal that may be sounded by a vessel at anchor or aground to warn an approaching vessel of a possible collision. (NAVEDTRA 105.24)

(Signature and Date) _____/_____

R. Identify and Describe Accepted Maritime Distress Signals
(NAVEDTRA 105.25)
(BCM-04-07-ANY)

1. Red star shells.
2. Continuous sounding fog horn.
3. Orange smoke marker.
4. Dye marker (any color).
5. Red parachute flare.
6. Flames on a boat.
7. November code flag flown over the "Charlie" code flag.
8. Emergency Position Indicating Radio Beacon (EPIRB).
9. Orange board with a black square over a black circle.
10. "MAYDAY" radio broadcast.
11. Person waving arms.
12. A signal consisting of a square flag having above or below it a ball.
13. Radio telephone alarm.
14. Radio telegraph alarm.
15. SOS - Morse code signal.
16. Gun fired at intervals of one minute.
17. High intensity white light flashing at intervals of 50 to 70 times per minute (inland waters only).

(Signature and Date) _____/_____

S. State the appropriate sound signal to be sounded by a vessel in restricted visibility for each of the following conditions:
(NAVEDTRA 105.27)

1. Power-driven vessel underway with no way on
2. Sailing vessel underway
3. Power-driven vessel towing
4. Vessel constrained Power-driven vessel underway with way on
5. Vessel constrained by draft
6. Vessel restricted in ability to maneuver
7. Vessel engaged in fishing
8. Vessel not under command
9. Vessel being towed
10. Vessel engaged in pilot duties
11. Vessel 100 meters or longer at anchor
12. Vessel under 100 meters at anchor
13. Vessel aground

(Signature and Date) _____/_____

106 SEAMANSHIP FUNDAMENTALS

References:

(a) NAVEDTRA 14343, Boatswain's Mate
(b) USCG COMDTINST M16114.5C, Boat Crew Seamanship Manual
(c) NAVEDTRA 14067, Seaman

A. Discuss the following Boat Nomenclature and Terminology:
(NAVEDTRA 106.1)

1. Port and Starboard Bows
2. Stern, including Port and Starboard Quarters
3. Amidships, including Port and Starboard Beams
4. Athwart ship
5. Outboard and Inboard
6. Fore and Aft
7. Transom
8. Gunwale

(Signature and Date) _____/_____

B. Boat characteristics-boat construction
(BCM 03-03)

1. Name and define the three basic types of hulls.
2. Define keel and name the two keel types.
3. Name and define the most common boat measurements (beam, height, fixed height, length, freeboard, and draft).
4. Name and define the measurements used to define boat displacement.

(Signature and Date) _____/_____

C. Stability
(BCM 03-05)

1. Define center of gravity and describe how it changes as weight is added to or subtracted from the boat.
2. Define buoyancy.
3. Define equilibrium and describe how it is changed during rolling, heeling and listing.
4. State the two types of stability.
5. Describe the two types of forces that affect stability.
6. List the general boat design features that influence stability.

(Signature and Date) _____/_____

D. Identify and discuss the types of line.

J. Discuss the proper method of whipping a bitter end.
(NAVEDTRA 106.8)

(Signature and Date) _____/_____

K. Discuss the purpose and how to tie the following types of knots:
(NAVEDTRA 106.9)

1. Bowline
2. Half Hitch
3. Clove Hitch
4. Timber Hitch
5. Square Knot

(Signature and Date) _____/_____

L. Discuss the purpose and how to complete the following types of line splices (NAVEDTRA 106.10)

1. Eye Splice

(Signature and Date) _____/_____

M. Discuss the configurations of mooring lines with boat tied to the pier. (NAVEDTRA 106.11)

(Signature and Date) _____/_____

N. Discuss the way to rig fenders.
(NAVEDTRA 106.12)

(Signature and Date) _____/_____

O. Define and discuss the following line handling terms:
(NAVEDTRA 106.13)

1. Hold
2. Check
3. Ease
4. Pay out
5. Take the slack out
6. Take a turn
7. Take in
8. Make fast
9. Take a round turn

(Signature and Date) _____/_____

(NAVEDTRA 106.2)

(Signature and Date) _____/_____

E. Define the following terms:

(NAVEDTRA 106.3)

1. Bitter End
2. Bend
3. Hitch
4. Standing Part
5. Overhand/Underhand Loop
6. Bight
7. Turn
8. Round Turn
9. Chafing gear
10. Splice
11. Whipping

(Signature and Date) _____/_____

F. Discuss line characteristics based on type of line.

(NAVEDTRA 106.4)

(Signature and Date) _____/_____

G. Discuss the maintenance and inspection of lines.

(NAVEDTRA 106.5)

(Signature and Date) _____/_____

H. Discuss the following types of deck and pier fittings:

(NAVEDTRA 106.6)

1. Bollard
2. Cleat
3. Bitts
4. Chock
5. Pad eye

(Signature and Date) _____/_____

I. Define and discuss the following:

(NAVEDTRA 106.7)

1. Coiling line
2. Faking down
3. Flemishing

(Signature and Date) _____/_____

P. Discuss the use of spring lines to assist in mooring and getting underway. (NAVEDTRA 106.14)

(Signature and Date) _____/_____

Q. Discuss the method to secure a line to the following: (NAVEDTRA 106.15)

1. Bitt
2. Mooring Cleat

(Signature and Date) _____/_____

107 LAUNCH AND RECOVERY FUNDAMENTALS

References:

(a) MEBS TECHMAN for Boat Class
(b) NAVEDTRA 14343, Boatswain's Mate
(c) NYNMINST 3120.1(series) MEBS Standing Operating Procedures
(d) NSTM S9086-TX-STM-010/CH-583R3, Boats and Small Craft

A. Discuss safety precautions to be observed when launching/recovering a boat from/to trailer. (NAVEDTRA 107.2)

(Signature and Date) _____/_____

B. Define and discuss the roles of the following when launching and recovering a boat on a ramp: (NAVEDTRA 107.3)

1. Boat coxswain
2. Prime mover operator
3. Safety observer
4. Ground guide
5. Winch man

(Signature and Date) _____/_____

C. Discuss the proper method to launch/recover the craft from/to trailer. (NAVEDTRA 107.5)

(Signature and Date) _____/_____

D. Discuss heavy weather hoisting/lowering/securing and trailering of boats. (NAVEDTRA 107.7)

(Signature and Date) _____/_____

108 ANCHORING FUNDAMENTALS

References:

(a) USCG COMDTINST 16114.5C, Boat Crew Seamanship Manual

A. Identify and discuss the following:
(NAVEDTRA 108.1)

1. Flukes
2. Shank
3. Shackle
4. Anchor line
5. Chain

(Signature and Date) _____/_____

B. Explain the rule for determining the scope of anchor line to be used. (NAVEDTRA 108.2)

(Signature and Date) _____/_____

C. Discuss the importance of bottom conditions in anchoring.
(NAVEDTRA 108.3)

(Signature and Date) _____/_____

D. Discuss how to determine the optimum location for anchoring.
(NAVEDTRA 108.4)

(Signature and Date) _____/_____

E. Discuss the procedures setting the anchor.
(NAVEDTRA 108.5)

(Signature and Date) _____/_____

F. Discuss the safety precautions when anchoring and weighing anchor. (NAVEDTRA 108.6)

(Signature and Date) _____/_____

G. Discuss the indications of a dragging anchor.
(NAVEDTRA 108.7)

(Signature and Date) _____/_____

H. Discuss procedures for clearing a fouled anchor.
(NAVEDTRA 108.8)

(Signature and Date) _____/_____

109 TOWING FUNDAMENTALS

References:

(a) USCG COMDTINST M16114.5C, Boat Crew Seamanship Manual

A. Discussion precautions associated with towing.
(NAVEDTRA 109.1)

(Signature and Date) _____/_____

B. Discuss forces associated with towing.
(NAVEDTRA 109.2)

(Signature and Date) _____/_____

C. Discuss procedures to rig and tow stern and alongside.
(NAVEDTRA 109.4)

(Signature and Date) _____/_____

110 NAVIGATION RULES FUNDAMENTALS

References:

(a) USCG COMDTINST M16672.2 (Series), Navigation Rules (COLREG)

A. Describe the major differences between Inland and International Rules of the Road. (NAVEDTRA 113.1)

(Signature and Date) _____/_____

B. Define and discuss the following terms: (NAVEDTRA 113.2)

1. Vessel
2. Power-driven vessel
3. Sailing vessel
4. Underway
5. U.S. inland waters
6. Restricted visibility
7. Vessel constrained by draft
8. Vessel restricted in ability to maneuver
9. Not under command
10. Vessel engaged in fishing
11. Safe speed
12. Risk of collision

(Signature and Date) _____/_____

C. Define and discuss the following terms: (NAVEDTRA 113.3)

1. Give way vessel
2. Stand on vessel

(Signature and Date) _____/_____

D. Define the following terms and describe the actions to be taken by the give way and stand on vessels for each situation when the vessels are within sight of each other: (NAVEDTRA 113.1)

1. Difference between International and Inland rules of the road.
2. Head-on
3. Crossing
4. Overtaking

(Signature and Date) _____/_____

E. Discuss the procedure to be followed when hearing a sound signal forward of your beam in restricted visibility. (NAVEDTRA 113.5)

(Signature and Date) _____/_____

F. Discuss the following: Inland General Rule 2 which states "nothing in the rules shall exonerate any vessel from complying with the rules of the road" (NAVEDTRA 113.6)

(Signature and Date) _____/_____

G. Discuss responsibilities between vessels with regard to keeping out of the way of one another. (NAVEDTRA 113.7)

(Signature and Date) _____/_____

H. Discuss action to be taken to avoid collision. (NAVEDTRA 113.8)

(Signature and Date) _____/_____

111 NAVIGATION FUNDAMENTALS

References:

(a) NAVEDTRA 14338, Quartermaster
(b) NOAA Chart #1, Nautical Chart Symbols, Abbreviations and Terms
(c) Bowditch Pub. NO. 9, The American Practical Navigator
(d) USCG COMDTINST M16114.5C, Boat Crew Seamanship Manual

A. Describe the chart numbering system.
(NAVEDTRA 114.1)

(Signature and Date) _____/_____

B. Define and discuss the following terms:
(NAVEDTRA 114.2)

1. Weekly Notices to Mariners
2. Broadcast Notices to Mariners
3. Local Notices to Mariners
4. HYDROLANT/HYDROPAC

(Signature and Date) _____/_____

C. Discuss the importance of chart scale and why you should use the largest scale chart available for an operating area.
(NAVEDTRA 114.3)

(Signature and Date) _____/_____

D. Define and discuss the following publications:
(NAVEDTRA 114.4)

1. Light Lists
2. Tide Tables
3. Current Tables
4. Coast Pilots
5. Sailing Directions

(Signature and Date) _____/_____

E. Define and discuss the following terms:
(NAVEDTRA 114.5)

1. Latitude
2. Longitude
3. Equator
4. Meridian

(Signature and Date) _____/_____

F. Describe how to convert tenths of minutes to seconds of latitude/longitude, and how to convert seconds to tenths of minutes. (NAVEDTRA 114.6)

(Signature and Date) _____/_____

G. Define and discuss the following terms: (NAVEDTRA 114.8)

1. Compass rose
2. Magnetic Compass
3. True bearing
4. Magnetic Bearing
5. Compass Bearing
6. Relative Bearing
7. Variation
8. Annual change
9. Deviation

(Signature and Date) _____/_____

H. Describe the procedures for applying deviation to a compass bearing. (NAVEDTRA 114.9)

(Signature and Date) _____/_____

I. Describe the procedures to convert the following: (NAVEDTRA 114.10)

1. Compass Bearing to/from True Bearing
2. Relative Bearing to/from Magnetic Bearing

(Signature and Date) _____/_____

J. Describe the colors and numbering scheme used on buoys, lights and day markers. (NAVEDTRA 114.11)

(Signature and Date) _____/_____

K. Define and discuss the following terms: (NAVEDTRA 114.12)

1. Heading
2. Course
3. Course made good
4. Speed of Advance
5. Speed Made Good

(Signature and Date) _____/_____

L. Define and discuss the following navigational tools: (NAVEDTRA 114.13)

1. Parallel ruler
2. Dividers
3. Compass
4. Nautical slide rule (time-speed-distance wheel)

(Signature and Date) _____/_____

M. Describe the chart symbols for the following navigational features: (NAVEDTRA 114.14)

1. Light
2. Buoy and Beacons
3. Shoal
4. Reef
5. Obstruction
6. Restricted area
7. Depth markings
8. Bottom types
9. Cultural Features
10. Wrecks
11. Cable crossings

(Signature and Date) _____/_____

N. Describe procedures to lay out a course on a chart. (NAVEDTRA 114.15)

(Signature and Date) _____/_____

O. Describe procedures for calculating Time, Distance and Speed. (NAVEDTRA 114.16)

(Signature and Date) _____/_____

P. Describe procedures for laying a Dead Reckoning (DR) course. (NAVEDTRA 114.17)

(Signature and Date) _____/_____

Q. Describe range markers and discuss how they are used in navigating narrow channels. (NAVEDTRA 114.18)

(Signature and Date) _____/_____

R. Define and describe the following terms: (NAVEDTRA 114.19)

1. Fix
2. Estimated position
3. Line of position
4. Sounding
5. Set
6. Drift

(Signature and Date) _____/_____

S. Describe how to plot a fix using the following techniques:
(NAVEDTRA 114.20)

1. Geographic ranges
2. Magnetic compass
3. Radar
4. GPS

(Signature and Date) _____/_____

T. Discuss sources of marine weather information.
(NAVEDTRA 114.21)

(Signature and Date) _____/_____

U. Discuss how sea state is affected by:
(NAVEDTRA 114.22)

1. Wind speed
2. Wind duration
3. Fetch

(Signature and Date) _____/_____

V. Define and discuss the following heavy weather warnings:
(NAVEDTRA 114.23)

1. Small craft advisory
2. Gale warning
3. Storm warning
4. Hurricane warning

(Signature and Date) _____/_____

W. Describe the sea states defined by the Beaufort scale.
(NAVEDTRA 114.24)

(Signature and Date) _____/_____

X. Define and discuss the following terms:

(NAVEDTRA 114.25)

1. High water
2. Low water
3. Range of tide
4. Spring tide
5. Neap tide
6. Flood current
7. Ebb current
8. Slack water
9. Mean low water

(Signature and Date) _____/_____

Y. Define the following RADAR terms:

(NAVEDTRA 114.26)

1. Rain clutter
2. Sea return
3. Radar interference
4. False echoes
5. Blind sectors
6. Side lobes

(Signature and Date) _____/_____

112 COMMUNICATIONS FUNDAMENTALS

References:

(a) NAVEDTRA 14343, Boatswain's Mate
(b) NAVEDTRA 14244, Signalman 3 & 2
(c) USCG Navigation Rules and Regulations Handbook
(d) NTTP 3-20.6.29, Tactical Boat Operations
(e) USCG COMDTINST M16114.5C, Boat Crew Seamanship Manual
(f) NYNMINST 3120.1(series) MEBS Standing Operating Procedures

A. Discuss the following communication procedures:
(NAVEDTRA 115.1)

1. Call signs
2. Radio communication transmitting technique

(Signature and Date) _____/_____

B. Discuss the pronunciation of the Phonetic alphabet and numerals in radio calls. (NAVEDTRA 115.2)

(Signature and Date) _____/_____

C. Discuss the use of Pro-words in radio transmissions.
(NAVEDTRA 115.3)

(Signature and Date) _____/_____

D. Discuss the definition of a datum point as it relates to SAR.
(NAVEDTRA 115.4)

(Signature and Date) _____/_____

E. Discuss loss of communication procedures for patrol boat.
(NAVEDTRA 115.5)

(Signature and Date) _____/_____

F. Discuss the FCC approved Marine Band channels and their authorized functions. (NAVEDTRA 115.6)

(Signature and Date) _____/_____

G. Discuss the Automatic Identification System (AIS), including Mobile Maritime Service Identity (MMSI) number.

(Signature and Date) _____/_____

113 BOAT HANDLING FUNDAMENTALS

References:

(a) NAVEDTRA 14343, Boatswain's Mate
(b) USCG COMDTINST M16114.5C, Boat Crew Seamanship Manual
(c) NTTP 3-20.6.29M, Tactical Boat Operations

A. Discuss the general boat handling characteristics of a craft when: (NAVEDTRA 117.1)

1. At slow speeds (Gathering headway)
2. Turning
3. Stopping
4. Backing down

(Signature and Date) _____/_____

B. Discuss the use of spring lines to assist in getting underway from a pier. (NAVEDTRA 117.3)

(Signature and Date) _____/_____

C. Discuss boat operation precautions in rough seas. (NAVEDTRA 117.4)

1. Negotiating Head Seas
2. Running Before the Sea
3. Traversing Beam Seas
4. Harbor, River and Inlet Entrances

(Signature and Date) _____/_____

D. Discuss the following maneuvering situations: (NAVEDTRA 117.5)

1. Port side to landing and getting underway
2. Starboard side to landing and getting underway

(Signature and Date) _____/_____

E. Discuss the effects of the following: (NAVEDTRA 117.6)

1. Side force
2. Boat and screw going ahead
3. Boat and screw backing
4. Boat going astern, screw ahead
5. Boat going ahead, screw backing

(Signature and Date) _____/_____

F. Discuss each of the following evolutions, in terms of the boat handling requirements or each. (NAVEDTRA 117.7)

1. Getting underway from a pier with a current from ahead
2. Getting underway from a pier with a current from astern.
3. Getting underway from a pier with port or starboard engine only.
4. Backing into a narrow slip.
5. Coming alongside another craft underway.
6. Breaking away from another craft underway.

(Signature and Date) _____/_____

G. Describe the dangers associated with the three basic motions a boat experiences listed below, and the corrective measures that can be taken to reduce the effects of each. (NAVEDTRA 117.8)

1. Rolling
2. Pitching
3. Yawing

(Signature and Date) _____/_____

H. Discuss standard towing procedures: (NAVEDTRA 117.9)

1. Pre-Towing Procedures
2. Towing Astern
3. Connecting Tow Rig to Fittings
4. Connecting Tow Rig to a Trailer Eye
5. Transition to Stern Tow
6. Underway With Stern Tow
7. Compensating For Current
8. Shortening the Tow
9. Towing Alongside
10. Sinking Tows

(Signature and Date) _____/_____

I. Discuss the procedure for conducting a search from a known Datum point using the search patterns listed below: (NAVEDTRA 117.10)

1. Sector Search Pattern
2. Square Search Pattern

(Signature and Date) _____/_____

J. Discuss following considerations in determining use of various search patterns: (NAVEDTRA 117.11)

1. Weather conditions
2. Size of search area
3. Size of search object
4. Number of units involved in search
5. Search area location
6. Time limitations

(Signature and Date) _____/_____

K. Discuss the following types of boat hulls: (NAVEDTRA 117.12)

1. Displacement Hull
2. Planning Hull
3. Semi Displacement hull

(Signature and Date) _____/_____

L. Discuss the following physical characteristics of a boats hull: (NAVEDTRA 117.13)

1. Flare
2. Chine
3. Transom
4. Beam
5. Draft

(Signature and Date) _____/_____

M. Discuss the effects the factors below have on stability of a boat: (NAVEDTRA 117.14)

1. Free surface effect
2. Load weight effect
3. Effects of icing
4. Effects of water on deck

(Signature and Date) _____/_____

200 SYSTEMS

201 FUELING SYSTEM

References:

(a) MEBS TECHMAN for Boat Class
(b) Manufacturer Technical Manual
(c) OPNAVINST 5100.19 (Series) Navy Occupational Safety and Health (NAVOSH) Program

A. SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to the equipment, identify the following system components and component parts and discuss the designated items for each:

A. What is its function?
B. Where is it located?
C. What are the sources of power?
D. What are the modes of operation or control?
E. What are the safety/protective devices for this component/component part?
F. What protection is provided by this component/component part?
G. What are the probable indications if this component fails?
H. What is the source of control signals?
I. What is the function of each position?
J. What are the interlocks?

1. Fuel System Components: (NAVEDTRA 201.1.1)

a. Fuel Tank
b. Fuel Pumps
c. Fuel Water Separator
d. Fuel Filter
e. Fuel Return
f. Fuel Shut off
g. Fuel cap wrench

(Signature and Date) _____/_____

B. PRINCIPLES OF OPERATION

1. How do the components work together to achieve the system's function? (NAVEDTRA 201.2.1)

(Signature and Date) _____/_____

2. What indications are received if the system is malfunctioning? (NAVEDTRA 201.2.2)

(Signature and Date) _____/_____

C. PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions:

A. What is the normal operating value?
B. What are the allowable operating limits?
C. Where are the parameters sensed or monitored?
D. What is the physical location of the indicators?
E. What is the alarm set point?

1. How do the following variables affect the operation of this system? (NAVEDTRA 201.3.1)

a. Fuel Quality
b. Ambient Temperature
c. Water Contamination
d. Clogged Injectors
e. Loss of Fuel Pressure
f. Ruptured/Leaking Fuel Lines

(Signature and Date) _____/_____

D. SYSTEM INTERFACE

1. How does the main propulsion system interface with this system? (NAVEDTRA 201.4.1)

(Signature and Date) _____/_____

E. SAFETY PRECAUTIONS

1. What safety precautions must be observed during: (NAVEDTRA 201.5.1)

a. Operation of the system
b. Refueling
e. Fuel Priming

(Signature and Date) _____/_____

202 COMMERCIAL COMMUNICATIONS SYSTEM

References:

(a) MEBS TECHMAN for Boat Class
(b) Manufacturer Technical Manual
(c) OPNAVINST 5100.19 (Series) Navy Occupational Safety and Health (NAVOSH) Program

A. SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

A. What is its function?
B. Where is it located?
C. What are the sources of power?
D. What are the modes of operation or control?
E. What are the safety/protective devices for this component/component part?
F. What protection is provided by this component/component part?
G. What are the probable indications if this component fails?
H. What is the source of control signals?
I. What is the function of each position?

1. Components:

(NAVEDTRA 201.1.1)

a. MARINE VHF Radio
b. Hailer System
c. EPIRB

(Signature and Date) _____/_____

B. PRINCIPLES OF OPERATION

1. Discuss the function and operation of the MARINE VHF controls. (NAVEDTRA 201.2.1)

(Signature and Date) _____/_____

2. Discuss operation of the MARINE VHF radio in scramble Mode. (NAVEDTRA 201.2.2)

(Signature and Date) _____/_____

3. Discuss operation of the MARINE VHF Digital Signal Call (DSC) mode. (NAVEDTRA 201.2.3)

(Signature and Date) _____/_____

4. Discuss the function and operation of the Hailer controls. (NAVEDTRA 201.2.4)

(Signature and Date) _____/_____

5. Discuss the function and operation of the EPIRB. (NAVEDTRA 201.2.5)

(Signature and Date) _____/_____

C. PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions:

A. What is the normal operating value?
B. What are the allowable operating limits?
C. Where are the parameters sensed or monitored?
D. What is the physical location of the indicators?
E. What is the alarm set point?

1. Discuss range limitations of the MARINE VHF. (NAVEDTRA 202.3.1)

(Signature and Date) _____/_____

D. SYSTEM INTERFACE

1. Discuss how this system interfaces with the electrical system. (NAVEDTRA 202.4.1)

(Signature and Date) _____/_____

E. SAFETY PRECAUTIONS

1. Discuss safety precautions that must be observed when operating this system. (NAVEDTRA 202.5.1)

(Signature and Date) _____/_____

203 -A OUTBOARD ENGINES SYSTEM

References:

(a) MEBS TECHMAN for Boat Class
(b) Manufacturer Technical Manual

A. SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

A. What is its function?
B. Where is it located?
C. What are the sources of power?
D. What are the modes of operation or control?
E. What are the safety/protective devices for this component/component part?
F. What protection is provided by this component/component part?
G. What are the probable indications if this component fails?
H. What is the source of control signals?
I. What is the function of each position?
J. What are the interlocks?

1. Outboard Engine:

(NAVEDTRA 203.1.1)

a. Cover
b. Power head
c. Propeller
d. Tiller and throttle control
e. Shift handle
f. Transom mount/power trim and tilt
h. Water intake
i. Water pump
j. Manual primer
k. Dead-man switch
l. Fuel pump/filter
n. Engine lube oil sump
o. Lower unit
p. Mid-section
q. Fuel tank
r. Corrosion Inhibitor/Anode

(Signature and Date) _____/_____

B. PRINCIPLES OF OPERATION

1. How do the components work together to achieve the system's function? (NAVEDTRA 203.2.1)

(Signature and Date) _____/_____

2. What indications are received if the system is malfunctioning? (NAVEDTRA 203.2.2)

(Signature and Date) _____/_____

3. What are the startup/shutdown procedures for this system? (NAVEDTRA 203.2.3)

(Signature and Date) _____/_____

4. Describe the routine maintenance to be performed on main propulsion system? (NAVEDTRA 203.2.4)

(Signature and Date) _____/_____

C. PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions:

A. What is the normal operating value?
B. What are the allowable operating limits?
C. Where are the parameters sensed or monitored?
D. What is the physical location of the indicators?
E. What is the alarm set point?

1. Discuss the following operating parameters: (NAVEDTRA 203.3.1)

a. High Water Temperature
b. Max RPM

(Signature and Date) _____/_____

D. SYSTEM INTERFACE

1. How do the following variables affect the operation of this system? (NAVEDTRA 203.4.1)

a. Water intake
c. Fuel quantity
d. Marine organisms, debris, and pollutants
e. Spark plug gap
f. Fuel and oil mixture

(Signature and Date) _____/_____

2. How does this system interface with the following? (NAVEDTRA 203.4.2)

a. Electrical system
b. Steering system
c. Transom

(Signature and Date) _____/_____

E. SAFETY PRECAUTIONS

1. What safety precautions must be observed when operating this system? (NAVEDTRA 203.5.1)

(Signature and Date) _____/_____

203-D DIESEL ENGINES SYSTEM

References:

(a) MEBS TECHMAN for Boat Class]
(b) Manufacturer Technical Manual

A. SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

A. What is its function?
B. Where is it located?
C. What are the sources of power?
D. What are the modes of operation or control?
E. What are the safety/protective devices for this component/component part?
F. What protection is provided by this component/component part?
G. What are the probable indications if this component fails?
H. What is the source of control signals?
I. What is the function of each position?
J. What are the interlocks?

1. Diesel Engines:

(NAVEDTRA 204.1.1)

a. Engine, Marine Gear
b. Instrument Panel
c. Engine Start/Stop Controls
d. Drive Train/Transmission Controls
e. Engine Block and Pre-Heater
f. Engine Electrical System
g. Alarm Systems
h. Fuse Box
i. Sea Water Pump/Sea Water Strainer
j. Fresh Water Pump
k. Lube Oil Cooler
l. Heat Exchangers
m. Overboard Discharge
n. Air Intake/Exhaust

(Signature and Date) _____/_____

B. PRINCIPLES OF OPERATION

1. How do the components work together to achieve the system's function? (NAVEDTRA 204.2.1)

(Signature and Date) _____/_____

2. What indications are received if the system is malfunctioning? (NAVEDTRA 204.2.2)

(Signature and Date) _____/_____

3. What are the startup/shutdown procedures for this system? (NAVEDTRA 203.2.3)

(Signature and Date) _____/_____

4. Describe the routine maintenance to be performed on main propulsion system? (NAVEDTRA 204.2.4)

(Signature and Date) _____/_____

C. PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions:

A. What is the normal operating value?
B. What are the allowable operating limits?
C. Where are the parameters sensed or monitored?
D. What is the physical location of the indicators?
E. What is the alarm set point?

1. Discuss the following operating parameters: (NAVEDTRA 204.3.1)

a. Lube oil pressure
b. Fuel Oil Pressure
c. Jacket Water Temperature

(Signature and Date) _____/_____

D. SYSTEM INTERFACE

1. How do the following variables affect the operation of this system? (NAVEDTRA 204.4.1)

a. Fuel Quality
b. Marine organization, debris and pollutants
c. Air Temperature and quality
d. Seawater temperature
e. Heavy Weather

(Signature and Date) _____/_____

2. How does this system interface with the following? (NAVEDTRA 204.4.2)

a. Hydraulic systems
b. Bilge system
c. Electrical system
e. Fuel system

(Signature and Date) _____/_____

E. SAFETY PRECAUTIONS

1. What safety precautions must be observed when operating and working around the propulsion system? (NAVEDTRA 204.5.1)

(Signature and Date) _____/_____

204 ELECTRICAL SYSTEM

References:

(a) MEBS TECHMAN for Boat Class
(b) Manufacturer Technical Manual
(c) OPNAVINST 5100.19 (Series) Navy Occupational Safety and Health (NAVOSH) Program

A. SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

A. What is its function?
B. Where is it located?
C. What are the sources of power?
D. What are the modes of operation or control?
E. What are the safety/protective devices for this component/component part?
F. What protection is provided by this component/component part?
G. What are the probable indications if this component fails?
H. What is the source of control signals?
I. What is the function of each position?

1. Electrical Systems:

(NAVEDTRA 205.1.1)

a. Alternator
b. Batteries
c. Circuit breaker panel
d. Fuses
e. Starter
f. Battery Power Isolator Switches
g. 12v system
h. 24v system
i. 110v system
k. Battery charger
l. Voltmeter
m. Alarm Test
n. Hour Meter
o. Alarm System
p. Shore Power Cable

(Signature and Date) _____/_____

B. PRINCIPLES OF OPERATION

1. How do the components work together to achieve the system's function? (NAVEDTRA 205.2.1)

(Signature and Date) _____/_____

2. What indications are received if the system is malfunctioning? (NAVEDTRA 205.2.2)

(Signature and Date) _____/_____

3. Describe the routine maintenance to be performed on this system? (NAVEDTRA 205.2.3)

(Signature and Date) _____/_____

4. What are the startup/shutdown procedures for this system? (NAVEDTRA 205.2.4)

(Signature and Date) _____/_____

C. PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions:

A. What is the normal operating value?
B. What are the allowable operating limits?
C. Where are the parameters sensed or monitored?
D. What is the physical location of the indicators?
E. What is the alarm set point?

1. Discuss the operating parameters of the charging system. (NAVEDTRA 205.3.1)

(Signature and Date) _____/_____

D. SYSTEM INTERFACE

1. How do the following outside influences affect the operation of this system? (NAVEDTRA 205.4.1)

a. Loss of engine
b. Short circuit in user equipment
c. Jump starting an engine using cables

(Signature and Date) _____/_____

2. How does this system interface with the following? (NAVEDTRA 205.4.2)

a. Marine power plant

b. All electronic systems (i.e. navigation, communications)

(Signature and Date) _____/_____

E. SAFETY PRECAUTIONS

1. What safety precautions must be observed when operating and working around the propulsion system? (NAVEDTRA 205.5.1)

(Signature and Date) _____/_____

205 STEERING SYSTEM

References:

(a) MEBS TECHMAN for Boat Class
(b) Manufacturer Technical Manual

A. SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated

A. What is its function?
B. Where is it located?
C. What are the sources of power?
D. What are the modes of operation or control?
E. What are the safety/protective devices for this component/component part?
F. What protection is provided by this component/component part?
G. What are the probable indications if this component fails?
H. What is the source of control signals?
I. What is the function of each position?
J. What are the interlocks?

1. Steering System: (NAVEDTRA 206.1.1)

a. Helm
b. Steering cable
c. Hydraulic ram linkage
d. Power steering pump
e. Fluid Reservoir

(Signature and Date) _____/_____

B. PRINCIPLES OF OPERATION

1. How do the components work together to achieve the system's function? (NAVEDTRA 206.2.1)

(Signature and Date) _____/_____

2. What indications are received if the system is malfunctioning? (NAVEDTRA 206.2.2)

(Signature and Date) _____/_____

3. Describe the routine maintenance to be performed on this system? (NAVEDTRA 206.2.3)

(Signature and Date) _____/_____

C. PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions:

A. What is the normal operating value?
B. What are the allowable operating limits?
C. Where are the parameters sensed or monitored?
D. What is the physical location of the indicators?
E. What is the alarm set point?

1. Identify correct fluid levels for the steering system. (NAVEDTRA 206.3.1)

(Signature and Date) _____/_____

D. SYSTEM INTERFACE

1. How do the following outside influences affect the operation of this system? (NAVEDTRA 206.4.1)

a. Loss of Engine
b. Loss of Hydraulic Fluid
c. Loss of Electrical
d. Loss of Steering Control Assembly

(Signature and Date) _____/_____

2. How does this system interface with the following? (NAVEDTRA 206.4.2)

a. Outboard
b. Electrical System

(Signature and Date) _____/_____

E. SAFETY PRECAUTIONS

1. What safety precautions apply when performing maintenance on this system? (NAVEDTRA 206.5.1)

(Signature and Date) _____/_____

206 BILGE SYSTEM

References:

(a) MEBS TECHMAN for Boat Class
(b) Manufacturer Technical Manual

A. SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

A. What is its function?
B. Where is it located?
C. What are the sources of power?
D. What are the modes of operation or control?
E. What are the safety/protective devices for this component/component part?
F. What protection is provided by this component/component part?
G. What are the probable indications if this component fails?
H. What is the source of control signals?
I. What is the function of each position?

1. Bilge System:

(NAVEDTRA 207.1.1)

1. Check valves
2. Bilge hose
3. Bilge pump, electrical
4. Overboard discharge port

(Signature and Date) _____/_____

B. PRINCIPLES OF OPERATION

1. How do the components work together to achieve the system's function? (NAVEDTRA 207.2.1)

(Signature and Date) _____/_____

2. What indications are received if the system is malfunctioning? (NAVEDTRA 207.2.2)

(Signature and Date) _____/_____

3. Describe the routine maintenance to be performed on this system? (NAVEDTRA 207.2.3)

(Signature and Date) _____/_____

4. How does debris in the bilge influence the operation of this system? (NAVEDTRA 207.2.4)

(Signature and Date) _____/_____

C. SYSTEM INTERFACE

1. How does this system interface with the electrical system? (NAVEDTRA 207.4.1)

(Signature and Date) _____/_____

D. SAFETY PRECAUTIONS

1. What safety precautions apply when performing maintenance on this system? (NAVEDTRA 207.5.1)

(Signature and Date) _____/_____

207 NAVIGATION SYSTEM

References:

(a) MEBS TECHMAN for Boat Class
(b) Manufacturer Technical Manual
(c) OPNAVINST 5100.19 (Series) Navy Occupational Safety and Health (NAVOSH) Program

A. SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

A. What is its function?
B. Where is it located?
C. What are the sources of power?
D. What are the modes of operation or control?
E. What are the safety/protective devices for this component/component part?
F. What protection is provided by this component/component part?
G. What are the probable indications if this component fails?
H. What is the source of control signals?
I. What is the function of each position?
J. What are the interlocks?

1. Navigation Components:

(NAVEDTRA 208.1.1)

a. Display Unit
b. GPS / Chart Plotter
c. Radar System
d. Echo Sounder
e. Magnetic Compass

(Signature and Date) _____/_____

B. PRINCIPLES OF OPERATION

1. Discuss the function keys on the GPS control panel.

(NAVEDTRA 208.2.1)

(Signature and Date) _____/_____

2. Discuss the following GPS alarms:

(NAVEDTRA 208.2.2)

a. Arrival alarm
b. Anchor alarm
c. Off-course alarm
d. Proximity Alarm

(Signature and Date) _____/_____

3. Discuss the steps involved in initializing the radar. (NAVEDTRA 208.2.3)

(Signature and Date) _____/_____

4. Discuss the function keys on the RADAR control panel. (NAVEDTRA 208.2.4)

(Signature and Date) _____/_____

5. Discuss the function keys on the Echo Sounder control panel. (NAVEDTRA 208.2.5)

(Signature and Date) _____/_____

6. Discuss procedures for setting the keel offset in the Echo Sounder. (NAVEDTRA 208.2.6)

(Signature and Date) _____/_____

7. Describe the routine maintenance to be performed on this system. (NAVEDTRA 208.2.7)

(Signature and Date) _____/_____

C. PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions:

A. What is the normal operating value?
B. What are the allowable operating limits?
C. Where are the parameters sensed or monitored?
D. What is the physical location of the indicators?
E. What is the alarm set point?

1. Discuss the following operating parameters: (NAVEDTRA 208.3.1)

a. GPS accuracy
b. RADAR Max/Min Range
d. Day/Night Settings
e. RADAR Gain
f. Sea /Rain Clutter
g. Range Ring setting

(Signature and Date) _____/_____

C. SAFETY PRECAUTIONS

1. Discuss general safety precautions that must be observed when operating this system. (NAVEDTRA 208.5.1)

(Signature and Date) _____/_____

300 WATCHSTATIONS

301 CREWMAN FOCUS

A. ROUTINE TASKS

1. Tie Knots, Hitches and Bends

(BCM 03-07)

a) Tie a square (reef) knot.
b) Tie bowline in the end of a mooring line.
c) Put a temporary eye in towline, using a bowline.
d) Untie knot by "breaking" the bowline.
e) Secure line to a rail using a clove hitch.
f) Secure clove hitch by using two half hitches.
g) Mount fender using a slip clove hitch.
h) Attach heaving line to a towline using a sheet bend, snap hook, bowline and/or clove hitch with two half hitches.
i) Add length of mooring line to a towline using a double becket bend.
j) Secure log, board or other rough surfaced object by using a timber hitch and two half hitches.
k) Tie bowline around an object.

(Signature and Date) _____/_____

2. Secure Lines to Cleats, Bitts and Post

(BCM 03-08)

a) Locate all standard cleats on boat.
b) Place complete round turn around the base of the cleat.
c) Lead line over the top of the cleat and around the horns to form a figure eight.
d) Secure additional figure eights until the cleat is secured with at least three figure eights.
e) Feed eye of the line through the opening in the base of the cleat.
f) Loop line back over horns and pull taut.
g) Place eye of first mooring line over the cleat.
h) Run eye of second mooring line through the eye of the first.
i) Place eye of second mooring line over the cleat.
j) Identify and locate all bitts on boat.
k) Make a complete turn-around the near horn.
l) Make three or more figure eights around both horns.
m) Identify and locate Samson post on boat.
n) Make complete round turn around the base of the Samson post.

o) Make several figure eights around horns of the post.

(Signature and Date) _____/_____

3. Rig Fenders to Side of the Boat (BCM-04-01)

a) Tie fenders in place using a slip clove hitch.
b) Position all fenders appropriately for width and height of pilings and piers.
c) Place fenders at contact points between boat and pier, dock or another boat.

(Signature and Date) _____/_____

4. Make Fast a Boat to a Pier (Bow on Mooring, No Current/Wind) (BCM-04-02)

a) Place forward spring line on pier cleat tended and secure to the boat.
b) Place stern line on pier cleat and secure to the boat.
c) Place bow line on pier cleat and secure to the boat.
d) Place aft spring line on pier cleat and secure to the boat.

(Signature and Date) _____/_____

5. Assist in Anchoring the Boat (BCM-04-03)

a) State the main parts of the anchor.
b) State the equipment associated with anchoring.
c) Establish communications with Coxswain during the evolution.
d) Ascertain amount of scope needed based on depth of water and type of bottom.
e) Break out and attach anchor line to anchor.
f) Deploy anchor by safest means.
g) Inform Coxswain of direction line tending at all times as anchor line pays out (veers).
h) Secure anchor line to bitt at Coxswain's command.

(Signature and Date) _____/_____

6. Assist in Weighing the Boat's Anchor (BCM-04-04)

a) Establish communications with Coxswain.
b) Remove slack from anchor line as boat moves ahead.

c) Stow anchor line below deck, away from work area, immediately as it is brought aboard.
d) Signal to Coxswain when the anchor line is at short stay (up and down).
e) Break anchor free from bottom (if anchor does not break free, trainee makes fast anchor line to bitt while Coxswain moves the boat ahead to break it free).
f) Determine if anchor is clear and clean.
g) Haul anchor aboard the boat.
h) Make up and stow all equipment.

(Signature and Date) _____/_____

7. Stand a Lookout Watch

(BCM-04-08)

a) List the different types of buoys and their characteristics in the local area and the purpose of each.
b) Identify three different local fixed aids.
c) Identify and report the range and relative bearing of four different type vessels, common to the local area.
d) Identify and report range and relative bearing to deadhead and/or other floating hazard to navigation.
e) Identify whistle, bell, gong, and/or other local audio aids to navigation.
f) Recognize and report different boat crossing situations.
g) Recognize and report meeting situations.
h) Recognize and report overtaking situations.

(Signature and Date) _____/_____

8. Act as a Helmsman and Steer a Compass Course

(BCM-04-09)

a) Steer on the course ordered by the Coxswain.
b) Maintain course to within 5° of ordered course over a 10-minute staged run.
c) Alter course (at least 35°) to new course on Coxswain's command.
d) Steady boat up on new course and hold to within 5° of ordered course.
e) Monitor engine gauges.
f) Keep careful watch of the surrounding area.

(Signature and Date) _____/_____

9. Get the Boat Away from a Pier

(BCM-04-10)

a) Brief crew on procedure to be used and their duties.
b) Remove mooring lines from pier as directed.
c) Clear stern of the boat from the pier.
d) Clear boat of pier.

(Signature and Date) _____/_____

10. Moor the Boat to a Pier

(BCM-04-11)

a) Brief crew on procedure to be used and their duties.
b) Demonstrate checking engine control (forward and reverse on each engine.)
c) Approach slowly.
d) Apply appropriate power and rudder, use spring line if desired.
e) Bring boat alongside.
f) Secure lines.

(Signature and Date) _____/_____

B. ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
F. What emergencies or malfunctions may occur if immediate action is not taken?
G. How does this condition affect other operations/equipment/watchstations?
H. What follow-up action is required?
I. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

(Signature and Date) _____/_____

1. Demonstrate secure boat to pier during heavy weather.

(NAVEDTRA 301.1.1)

(Signature and Date) _____/_____

2. Rig boat for underway operations during heavy weather.

(NAVEDTRA 301.1.2)

(Signature and Date) _____/_____

3. Pass a Towline to Another Boat

(BCM-07-10)

a) Using heaving lines, pass towline to the boat to be towed.
b) Tend towline while people on other boat make attachment.
c) Place a proper working turn around the towing bitt and pay out the line, as directed.
d) On command, secure towline to the towing bitt.
e) On command, break towing bitt down to a working turn, pay towline out.
f) On command, make up bitt.

(Signature and Date) _____/_____

4. Secure an Alongside Tow

(BCM-07-12)

a) Rig fenders and set up lines on the side where tow will be secured.
b) If using stern towline, upon command, walk towline forward and fake out excess line on deck, out of the way.
c) If using stern towline, upon command, lead tow line forward and use as the bow line.
d) Secure other lines as directed by the Coxswain.
e) Explain the purpose of each line (bow, stern, towing strap, back spring).

(Signature and Date) _____/_____

5. Demonstrate rigging the craft for stern towing operations.

(NAVEDTRA 301.1.4)

(Signature and Date) _____/_____

C. EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?

G. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

1. Demonstrate operation of emergency flare. (NAVEDTRA 301.2.1)

(Signature and Date) _____/_____

2. Demonstrate use of survival gear and emergency equipment onboard craft. (NAVEDTRA 301.2.2)

(Signature and Date) _____/_____

3. Participate in a Man Overboard Evolution as a Pointer (BCM-07-01)

a) Keep Person in the Water (PIW) in sight continuously and sound alarm.
b) Proceed immediately to assigned position.
c) Keep Coxswain continuously informed of PIW position both vocally and by pointing.
d) Upon command, move to assigned position, and assist with pickup of PIW.

(Signature and Date) _____/_____

4. Participate in a Man Overboard Evolution as a Recovery/Pickup Person (NAVEDTRA 301.2.3) (BCM-07-02)

a) Proceed immediately to assigned position (should be lowest point of freeboard away from screws).
b) Prepare a rescue heaving line, if PIW is conscious.
c) On command, throw a rescue heaving line to PIW, if PIW is conscious.
d) Pull PIW alongside the boat, if PIW is conscious.
e) Pull the PIW aboard using two persons.

(Signature and Date) _____/_____

5. Prepare the Portable Pump for Operation, Start, and Obtain Suction (BCM-07-13)

a) Open and remove pump from pump can.
b) Check oil. Fill if needed.
c) Mount and connect fuel tank (if applicable).
d) Connect and unroll discharge hose.
e) Connect suction hose.
f) Place suction hose strainer in water.
g) Prime pump.

h) Start pump engine within six pulls.
i) Take suction and discharge water from the pump.
j) Drain, flush out with freshwater, clean up and secure pump.

(Signature and Date) _____/_____

6. Demonstrate first aid procedures for the following: (NAVEDTRA 301.2.5)

a) Hemorrhage
b) Shock
c) Burns
d) Chest wound
e) Abdominal wound
f) Head wound
g) Eye injury
h) Jaw, face, or neck wound
i) Heat injuries
j) Hypothermia
k) Frostbite
l) Fractures
m) Cardiac arrest

(Signature and Date) _____/_____

302 ENGINEERING FOCUS

A. TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task.

1. Perform all pre-underway engineering checks. (NAVEDTRA 302.2.1)

(Signature and Date) _____/_____

2. Perform all post-underway engineering checks. (NAVEDTRA 301.2.2)

(Signature and Date) _____/_____

3. Supervise fueling operations. (NAVEDTRA 301.2.3)

(Signature and Date) _____/_____

4. Perform all required preventative maintenance checks on assigned craft. (NAVEDTRA 301.2.4)

(Signature and Date) _____/_____

5. Document engineering log. (NAVEDTRA 301.2.6)

(Signature and Date) _____/_____

B. INFREQUENT TASKS

For the infrequent tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What is the alarm set point?
F. What parameters must be monitored?

G. How are the monitored parameters changed by this infrequent task?
H. What conditions require this infrequent task?
I. Satisfactorily perform or simulate this infrequent task.

1. Demonstrate procedures for HAZMAT spill.
(NAVEDTRA 301.3.1)

(Signature and Date) _____/_____

2. Read and interpret onboard engineering alarm system.
(NAVEDTRA 302.3.2)

(Signature and Date) _____/_____

C. ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

1. High water temperature.
(NAVEDTRA 302.4.1)

(Signature and Date) _____/_____

2. High/low output power from charging system.
(NAVEDTRA 302.4.2)

(Signature and Date) _____/_____

3. Worn belts.
(NAVEDTRA 302.4.3)

(Signature and Date) _____/_____

4. Shaft vibrations.
(NAVEDTRA 302.4.4)

(Signature and Date) _____/_____

5. Low engine power.
(NAVEDTRA 302.4.5)

(Signature and Date) _____/_____

6. Metallic/Non-metallic engine tapping/noise.
(NAVEDTRA 302.4.6)

(Signature and Date) _____/_____

7. Engine hard or fails to start.
(NAVEDTRA 302.4.7)

(Signature and Date) _____/_____

8. Craft hard to steer.
(NAVEDTRA 302.4.8)

(Signature and Date) _____/_____

9. Hydraulic leaks.
(NAVEDTRA 302.4.9)

(Signature and Date) _____/_____

10. Cooling water leak.
(NAVEDTRA 302.4.10)

(Signature and Date) _____/_____

11. Cooling water intake blocked (blocked/burnt impeller).
(NAVEDTRA 302.4.11)

(Signature and Date) _____/_____

12. Loss/Low oil pressure.
(NAVEDTRA 302.4.13)

(Signature and Date) _____/_____

D. EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?

D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

1. Class A fire on craft.

(NAVEDTRA 302.5.1)

(Signature and Date) _____/_____

2. Class B fire on craft.

(NAVEDTRA 302.5.2)

(Signature and Date) _____/_____

3. Class C fire on craft.

(NAVEDTRA 302.5.3)

(Signature and Date) _____/_____

4. Pyrotechnic fire on craft.

(NAVEDTRA 302.5.4)

(Signature and Date) _____/_____

5. Fuel leak.

(NAVEDTRA 302.5.5)

(Signature and Date) _____/_____

6. Hull breach/flooding.

(NAVEDTRA 302.5.6)

(Signature and Date) _____/_____

7. Loss of Steering.

(NAVEDTRA 302.5.7)

(Signature and Date) _____/_____

8. Spun prop.

(NAVEDTRA 302.5.8)

(Signature and Date) _____/_____

9. Loss of electrical power.

(NAVEDTRA 302.5.9)

(Signature and Date) _____/_____

303 NAVIGATION AND COMMUNICATIONS FOCUS

A. TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task.

1. Demonstrate knowledge of the Rules of the Road for inland and international waters. (NAVEDTRA 303.1.1)

(Signature and Date) _____/_____

2. Identify the Symbols, Abbreviations and Basic Parts of a Nautical Chart (BCM-06-01)

a) Identify the longitude scale.
b) Identify the latitude scale.
c) Identify horizontal and vertical clearances of overhead bridges and cables.
d) Identify 1 NM using the latitude scale.
e) Identify sounding numbers (feet/fathoms).
f) Identify depth curves (contours).
g) Identify the general information block.
h) Identify the scale of a chart.
i) Identify the latitude and longitude in minutes or seconds.
j) Identify different colors and stated meaning of each.
k) Identify the miles and yards scale.
l) Identify aids to navigation.
m) Identify the symbol for prominent local landmarks.
n) Identify the compass rose and indicate the purpose of each of its prominent parts.
o) Identify the symbol for a wreck, rock, or other submerged object.
p) Identify latest changes to the chart determined by Notice to Mariners and Local Notice to Mariners.

(Signature and Date) _____/_____

3. Identify Common Aids to Navigation Used for Inland and Coastal Piloting (BCM-06-02)

a) Identify a nun buoy and a can buoy.
b) Identify a preferred channel buoy and state its purpose.
c) Identify a day beacon.
d) Identify ranges and state their purpose.

(Signature and Date) _____/_____

4. Identify Local Landmarks on a Nautical Chart
(BCM-06-03)

a) Identify all major piers and docks in the area.
b) Identify any prominent dangerous submerged or semi-submerged rocks, shoals and structures.
c) Identify all prominent submerged or partially submerged wrecks in the area.
d) Identify all prominent antennas and towers used as navigational landmarks in the area.
e) Identify all prominent buildings and structures used as navigational landmarks in the area.
f) Identify all prominent landmarks in the area.
g) Identify all bridges and their types in the area.

(Signature and Date) _____/_____

5. Plot a Position Using Latitude and Longitude
(NAVEDTRA 303.1.2)
(BCM-06-04)

a) Plot five different positions on the chart within five minutes.

(Signature and Date) _____/_____

6. Compute Time, Speed and Distance
(BCM-06-07)

a) State the 3-minute and 6-minute rules.
b) Calculate the time, in hours, it would take a boat traveling at a speed of 8 KTS to get from point A to point B.
c) Calculate the speed, in knots, it would take a boat to get from point B to point C in 30 minutes.
d) Calculate the speed, in knots, it would take a boat to get from point E to point C in 2 hours.
e) Calculate the speed, in knots, it would take a boat to travel 200 yards in 3 minutes.
f) Calculate the distance, in nautical miles, a boat would travel at a speed of 12 KTS for 2.4 hours.

(Signature and Date) _____/_____

7. Use Radar to Identify Objects

(BCM-06-09)

a) Turn radar power switch on and allow unit to warm up.
b) If applicable, demonstrate toggling between transmit and standby modes.
c) Turn radar for maximum target return as required.
d) State the use of "gain," "sea clutter" and "rain clutter."
e) Demonstrate adjusting Use of "gain," "sea clutter" and "rain clutter" as necessary.
f) Recognize and visually verify three different prominent landmarks.
g) Recognize and visually verify two different aids to navigation.
h) Recognize and visually verify two different moving targets.

(Signature and Date) _____/_____

8. Use Radar to Obtain and Interpret Relative Bearings and Ranges to a Moving Target to Determine if Risk of Collision Exists

(NAVEDTRA 303.1.19)
(BCM-06-11)

a) Identify a moving target on the boat's radar.
b) Use the VRM and EBL to establish the target range and relative bearing.
c) Determine if the target is in a meeting situation or would be passing ahead or astern of the CG boat by monitoring the range and relative bearing.
d) Recommend course alteration, if necessary, to avoid the other boat.
e) State the meaning of "Constant Bearing, Decreasing Range."

(Signature and Date) _____/_____

9. Plot a magnetic course on a chart.

(NAVEDTRA 303.1.3)

(Signature and Date) _____/_____

10. Enter the track data into chart plotter.

(NAVEDTRA 303.1.5)

(Signature and Date) _____/_____

11. Select correct chart(s) for operating area.
(NAVEDTRA 303.1.6)

(Signature and Date) _____/_____

12. Calculate the tides and currents for operating area.
(NAVEDTRA 303.1.8)

(Signature and Date) _____/_____

13. Fix craft position using magnetic compass.
(NAVEDTRA 303.1.9)

(Signature and Date) _____/_____

14. Fix craft position using radar range.
(NAVEDTRA 303.1.10)

(Signature and Date) _____/_____

15. Fix craft position using navigational range.
(NAVEDTRA 303.1.11)

(Signature and Date) _____/_____

16. Demonstrate the operations of the GPS:
(NAVEDTRA 303.1.14)

a. Turn the unit on and off
b. Initialize the GPS
c. Obtain readout of current latitude and longitude
d. Determine course made good
e. Determine speed over ground
f. Determine the distance and bearing to the next waypoint
g. Save an event as a waypoint
h. Go to a specified waypoint
i. Initiate the Man Overboard function
j. Save the MOB location as a waypoint
k. Exit the MOB mode
l. Enter a new waypoint
m. Create a new route

(Signature and Date) _____/_____

17. Operate a VHF-FM Radiotelephone
(BCM-05-01)

a) Identify VHF-FM transceiver and speakers.

b) Identify breaker that energizes radio.
c) Identify power switch and turn radio on.
d) Identify channel selection switch or buttons for emergency and working frequencies.
e) Identify volume controls and adjust volume.
f) Identify squelch control and adjust to the point where static disappears.
g) Identify microphone and transmitting button and obtain a radio check on appropriate working frequency.

18. Demonstrate the installation of the tactical radio system (VHF low/high band). Operate Radio/Transceiver. (NAVEDTRA 303.1.18) (BCM-05-02)

a) Identify transceiver and speakers.
b) Install antennas properly.
c) Identify power switch and turn radio on.
d) Identify channel selection switch or buttons and select frequency.
e) Identify and adjust volume control.
f) Identify and adjust squelch control to just beyond the point where the static disappears.
g) Identify microphone and operating button and demonstrate radio check on appropriate working frequency.

19. Determine the Depth of Water Using a Fathometer, Depth Sounder (BCM-06-08)

a) Identify location of fathometer.
b) Energize fathometer/depth sounder and related equipment as required.
c) Adjust illumination, backlighting and contrast as appropriate.
d) Demonstrate entering "Offset Setup." Set appropriate depth.
e) Correct "Offset Depth" in each piece of equipment as required.
f) State the depth in three different positions.

20. Demonstrate the operations of the Echo Sounder. (NAVEDTRA 303.1.16)

a) Setting the shallow alarm
b) Setting the deep alarm
c) Selecting feet, fathoms or meters
d) Turning the alarm on and off

(Signature and Date) _____/_____

21. Demonstrate the ability to clearly hail an incoming contact. (NAVEDTRA 303.1.21)

a) The initial hail
b) The secondary hail
c) The final hail

(Signature and Date) _____/_____

22. Demonstrate the operation and use of Automatic Identification System (AIS).

a) Unencrypted
b) Encrypted

(Signature and Date) _____/_____

B. INFREQUENT TASKS

For the infrequent tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What is the alarm set point?
F. What parameters must be monitored?
G. How are the monitored parameters changed by this infrequent task?
H. What conditions require this infrequent task?
I. Satisfactorily perform or simulate this infrequent task.

1. Assist Coxswain in steering a dead reckoning (DR) course with multiple legs and turns. (NAVEDTRA 303.3.1)

(Signature and Date) _____/_____

2. Navigate in low visibility. (NAVEDTRA 303.3.2)

(Signature and Date) _____/_____

3. Assist Coxswain in search and rescue operation by plotting sector search and square search patterns. (NAVEDTRA 303.3.3)

(Signature and Date) _____/_____

4. Demonstrate operating MARINE VHF Digital Signal Call (DSC) mode. (NAVEDTRA 303.3.4)

(Signature and Date) _____/_____

5. Demonstrate system test and operation of the EPIRB. (NAVEDTRA 303.3.5)

Signature and Date) _____/_____

304 COXSWAIN FOCUS

A. TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task.

1. Prepare and brief Operational Risk Management for launch, recovery and underway operations. (NAVEDTRA 304.1.1)

(Signature and Date) _____/_____

2. Maintain the engineering and deck logs. (NAVEDTRA 304.1.2)

(Signature and Date) _____/_____

3. Supervise the crew in performing all pre-op and post-op checks. (NAVEDTRA 304.1.3)

(Signature and Date) _____/_____

4. Launch the craft from trailer at boat ramp. (NAVEDTRA 304.1.5)

(Signature and Date) _____/_____

5. Recover the craft to trailer at boat ramp. (NAVEDTRA 304.1.6)

(Signature and Date) _____/_____

6. Boat Handling (BCM-04-12)

a) Determine the rudder/helm limits.
b) Check engine control action.
c) Move boat forward in a straight line.
d) Maintain safe speed for trainee's ability and weather conditions.
e) Adjust speed to ensure wake causes no damage or injuries.
f) Turn the boat with the helm.

g) Stop the boat in a safe manner.
h) Hold a course while backing the boat.
i) Rotate boat about the pivot point.
j) Turn boat with a reduced tactical diameter.

7. Moor the Patrol boat.
(NAVEDTRA 304.1.9)

(Signature and Date) _____/_____

8. Get the Patrol boat underway.
(NAVEDTRA 304.1.10)

(Signature and Date) _____/_____

9. Moor the Patrol boat with aid of spring lines.
(NAVEDTRA 304.1.11)

(Signature and Date) _____/_____

10. Nose the Patrol boat up to fender.
(NAVEDTRA 304.1.12)

(Signature and Date) _____/_____

11. Pull alongside low free board craft while underway, not making way. (NAVEDTRA 304.1.13)

(Signature and Date) _____/_____

12. Pull alongside low free board craft while underway, making way. (NAVEDTRA 304.1.14)

(Signature and Date) _____/_____

13. Perform precision anchoring.
(NAVEDTRA 304.1.19)

(Signature and Date) _____/_____

14. Supervise refueling.
(NAVEDTRA 304.1.20)

(Signature and Date) _____/_____

15. Demonstrate proper tilt/trim of engines/out drives/trim tabs. (NAVEDTRA 304.1.21)

(Signature and Date) _____/_____

16. Conduct a pre-launch brief for all personnel.
(NAVEDTRA 304.1.23)

(Signature and Date) _____/_____

B. INFREQUENT TASKS

For the infrequent tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What is the alarm set point?
F. What parameters must be monitored?
G. How are the monitored parameters changed by this infrequent task?
H. What conditions require this infrequent task?
I. Satisfactorily perform or simulate this infrequent task.

1. Navigate in low visibility.
(NAVEDTRA 304.2.2)

(Signature and Date) _____/_____

2. Conduct search and rescue operation demonstrating:
(NAVEDTRA 304.2.3)

a. Sector Search
b. Square Search

(Signature and Date) _____/_____

3. Conduct towing operation demonstrating:
(NAVEDTRA 304.2.4)

a. Alongside Tow
b. Stern Tow

(Signature and Date) _____/_____

4. Demonstrate the ability to navigate in heavy weather:
(NAVEDTRA 304.2.5)

a. Running in a following sea
b. Running in a head sea
c. Prevention of broaching while coming about
d. Prevention of pitch-polling
e. Prevention of becoming airborne

(Signature and Date) _____/_____

C. ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

1. Loss of oil pressure.

(NAVEDTRA 304.3.1)

(Signature and Date) _____/_____

2. Engines fails to start.

(NAVEDTRA 304.3.2)

(Signature and Date) _____/_____

3. Transmission linkage failures.

(NAVEDTRA 304.3.3)

(Signature and Date) _____/_____

4. Spun prop.

(NAVEDTRA 304.3.4)

(Signature and Date) _____/_____

5. Unusual vibrations in engine.

(NAVEDTRA 304.3.5)

(Signature and Date) _____/_____

6. Engines overheat.

(NAVEDTRA 304.3.6)

(Signature and Date) _____/_____

7. Loss of steering.

(NAVEDTRA 304.3.7)

(Signature and Date) _____/_____

D. EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

1. Conduct man overboard evolution.

(NAVEDTRA 304.5.1)

(Signature and Date) _____/_____

2. Evacuate a personnel casualty from craft.

(NAVEDTRA 304.5.2)

(Signature and Date) _____/_____

3. Conduct the following casualty control evolutions:

(NAVEDTRA 304.5.3)

a. Class A fire
b. Class B fire
c. Class C fire
d. Pyrotechnics fire
e. Flooding due to hull breach
f. Flooding due to seawater cooling system
g. Collision with an underwater object
h. Collision with an object on the surface

(Signature and Date) _____/_____

305 TRAILER TOWING FOCUS

A. Prerequisites:

1. Member must possess a valid state driver's license.

(Signature and Date) _____/_____

2. Member must be familiar with the vehicle, vehicle controls, fueling procedures, etc.

(Signature and Date) _____/_____

3. Member must be familiar with the unit's surrounding area roadways and traffic hazards.

(Signature and Date) _____/_____

4. Member must be familiar with Visual Signals

(Signature and Date) _____/_____

B. Qualification Standards:

1. Demonstrate ability to properly match equipment.

a. Using a towing vehicle-hitch-trailer checklist, determine if tow vehicle and trailer are compatible.
b. Locate, identify, and confirm weight rating information stickers.

(Signature and Date) _____/_____

2. Demonstrate ability to plan a safe towing evolution.
a. Lay out a route for the mission.
b. Discuss route restrictions.
c. Discuss fuels stops.
d. Discuss safe speed considerations.
e. Discuss likely traffic conditions and the implications.
f. Discuss contingencies.
g. Discuss action to be taken if an accident occurs.

(Signature and Date) _____/_____

3. Demonstrate ability to properly connect the trailer to the towing vehicle (except for steps requiring operation of the tow vehicle)

a. Properly chock trailer.
b. Clear area if free of hazards.
c. Connect coupler to ball and lock in place.
d. Properly connect safety chains.
f. Connect lighting harness.

(Signature and Date) _____/_____

4. Demonstrate ability to conduct a pre-mission inspection

(Signature and Date) _____/_____

5. Demonstrate the ability to assist the driver in the maneuvers, using verbal and visual signals

(Signature and Date) _____/_____

6. Demonstrate appropriate knowledge if trailer surge break fails to disengage during backing.

(Signature and Date) _____/_____

6. Demonstrate ability to drive while towing a MEBS trailer.

a. Conduct vehicle inspection
   1) Tire/Pressure (Manufacturer Recommendations)
   2) Brakes
   3) All Fluid Levels (eg; oil, water, transmission, washer, brake, etc)
   4) Head Lights
   5) Lights
   6) Turn Signals
   7) Wiper Blades

b. Conduct driving test
   1) 90 Degree Turn
   2) Straight Line Serpentine
   3) Figure Eight
   4) Back 100 feet in a straight line with trailer
   5) Back to the left with trailer
   6) Back to the right with trailer
   7) Back trailer into a narrow space.
   8) Position the vehicle for refueling

306 CRAFTMASTER FINAL QUALIFICATION

A. PREREQUISITES

1. Tenure: Minimum One Year of MEBS membership.

Joined MEBS date: _____

2. COURSES: New York State Safe Boater Course (or equivalent, including U.S. Power Squadron "America's Boating Course", or U.S. Coast Guard Auxiliary "About Boating Safety"):

Date_____, Course _____, Certificate Number_____.

B. OTHER QUALIFICATIONS:

1. Class 3 Swim Test. Date_____, Location _____ Init. _____

2. Valid Driver License. State____, Number _____ Init. _____

3. Coxswain Qualification. Date_____, Vessel _____ Init. _____

4. Adult, Child, and Infant CPR course.

Date_____, Course _____, Certificate Number_____.

C. ORAL BOARD/FINAL QUALIFICATION AS MEBS CRAFTMASTER

(Signature and Date) _____/_____