

Marine Mechanical Technician

CERTIFICATE OF QUALIFICATION EXAM BREAKDOWN

The following table shows the number of questions per General Area of Competency (GAC) and Competency on the *Marine Mechanical Technician Certificate of Qualification Exam*.

Number of questions on each exam: 100

Certificate of Qualification GAC/Competency	#
A. OCCUPATION SKILLS	6
A2. Work safely	1
A3. Follow safe yard and marina practices	3
A7. Describe and use composites	2
B. VESSEL SYSTEMS	9
B1. Describe Thru-hulls	1
B2. Describe cabin heating systems	2
B3. Describe A/C and refrigeration theory	1
B4. Describe safe propane installations	1
B5. Describe davits, hoists and windlasses	1
B6. Describe fire suppression equipment and lock outs	2
B7. Inspect and repair mechanical and electrical steering systems	1
C. HYDRAULIC EQUIPMENT	6
C1. Describe hydraulic theory and system components	2
C2. Service and install hydraulic steering systems	2
C3. Diagnose and repair hydraulic equipment	2
D. METAL WORKING	3
D1. Perform metal fabrication operations	1
D2. Use oxy-acetylene torch	2
E. ELECTRICAL	15
E1. Describe principles of electrical theory	3
E2. Read and use electrical schematics	2
E3. Use electrical measurement and diagnostic equipment	3
E5. Select, install and test batteries	3
E6. Service and install AC chargers and inverters	1
E7. Diagnose alternators and charging faults	1
E8. Diagnose engine starters and solenoids	2
F. ENGINE SUPPORT SYSTEMS	9
F1. Service and install fuel tanks	1
F3. Service fuel pumps and filters	5
F6. Inspect and repair exhaust systems	3
G. ENGINES	15
G1. Describe reciprocating engine theory and operation	3
G2. Diagnose and repair engine cooling systems	6
G3. Perform leak down, cylinder balance and compression tests	1
G4. Disassemble, inspect and reassemble engines	2
G5. Measure engine components and specific machining requirements	1
G6. Perform engine component adjustment procedures	2
H. BOAT TRAILERS	2
H1. Describe and service boat trailers	2

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January 1, 2023

Certificate of Qualification GAC/Competency	#
I. MARINE DRIVE SYSTEMS	15
I1. Diagnose propellers	1
I2. Remove and install propellers	3
I3. Install I/O drives	2
I4. Service and diagnose stern drive components	6
I8. Diagnose inboard transmissions and V-drives	2
I9. Diagnose drive train vibration sources	1
J. IGNITION SYSTEMS	6
J1. Service ignition systems	1
J2. Diagnose ignition system faults	3
J4. Diagnose and repair electronic ignition system	2
K. CONTROL SYSTEMS	5
K1. Diagnose and repair engine control systems	4
K2. Describe autopilot types, systems	1
L. FUEL DELIVERY	9
L1. Diagnose diesel injector pump	1
L2. Diagnose and service diesel injectors	2
L4. Inspect and treat diesel fuel	1
L8. Diagnose and repair gasoline fuel systems faults	3
L9. Diagnose and repair oil injection systems	2
Total:	100