

AMFA Marine Engine Driver (MED) Pre-Enrolment Sample Questions



The Australian Maritime and Fisheries Academy MED 3, MED 2 and MED 1 courses contain comprehensive information required by Part D of the National Standards for Commercial Vessels (NSCV) for students to be considered competent.

The following questions have been compiled to help students determine the course level they should undertake based on their knowledge, skills and experience. There are ten questions from each of the three certificate courses that are representative of the types of subjects and information covered in each of the courses.

REMEMBER, the NSCV requires you to have knowledge of each level before being able to be certified as competent in that level and able to progress to the next level of certification. Contact AMFA if you require more information.

Marine Engine Driver III

1. What is the difference between an AB(E) and a B(E) fire extinguisher?
2. Explain the three functions of a thermostat.
3. What is an HRC fuse?
4. Where would you expect to find a screw down non-return valve fitted and for what reason are they fitted?
5. On what type of engines may you find under piston scavenging?
6. Briefly explain how you would carry out an oil change in the gearbox in the leg of an outboard engine.
7. Explain how 4 x 6v batteries are connected to give 12 volts to an ELV system.
8. Calculate the volume of a rectangular fuel tank that has the following dimensions, 1.3m x 3.68m x 1070mm. Now find 95% of its capacity. (Answer to be in litres)
9. Do pumps create pressure?
10. List eight precautions that should be taken before or whilst refuelling a vessel.

Marine Engine Driver II

1. How many Annexes are contained in MARPOL 73/78?
2. What is understood by the terms valve lead and valve lag?
3. What is the difference between a Roots type blower and a turbo-charger?
4. What is an L-Ported cock and where could you expect to find one?
5. How long should a vessel have been in the water, after coming off the slip, before final shaft alignment is attempted and what is the reason for your answer?
6. What is the maximum runout allowed on a pump shaft and how is it checked, before attempting to repack a conventional gland?
7. What is the main difference between ac and dc electric current?
8. What is a synchroscope and where would you expect to find it?
9. List five types of portable fire extinguishers that may be found on a 35m vessel and where you expect to find them on the vessel?
10. Briefly explain the procedure for starting up a vertical centrifugal pump and why is this procedure necessary?

Marine Engine Driver I

1. Name three components on a fishing vessel that could be manufactured from one of each of the following three engineering materials: 90/10 cupro-nickel, a super duplex steel and a nickel/aluminium bronze.
2. When alongside you are going to change over to shore power. Your ship's power supply is a 415v, 3 phase. Explain the precautions necessary before making the shore power breaker.
3. What is the difference between weight, mass, density and specific gravity?
4. What is the difference between "on load" and "off load" lifeboat hooks?
5. If it is given that your available fuel is 10 500 litres and the vessel speed is 11 knots, calculate the range of the vessel if its main engine is developing 410kW and under these conditions its SFC is 0,129 l/kWh.
6. Explain the term "shaft droop" and explain two ways of eliminating this problem?
7. How would you describe an engine that is of monobloc construction?
8. What is the main advantage of having a charge air cooler on a turbo charged engine?
9. How can a fire hose be used on a shipboard engine room fire to prevent either flashover or backdraft?
10. Why is a trailing oil pump fitted to gear boxes on some vessels?