

# Syllabus (Engine)

2 <sup>nd</sup> class Engine Driver	1 <sup>st</sup> Class Engine Driver
<p>a) The candidate must know on the working of the various types of internal combustion engines and be able to name the principal parts of the machinery.</p> <p>b) Must know what attention is required by the various parts of the machinery, understand the use and management of the different valves, cocks, pipes and connections and be familiar with the various methods of supplying air and fuel to the cylinders.</p> <p>c) Must be able to describe the chief causes which may make the engine difficult to start and to explain how he would proceed to remedy and defects connected therewith. He must also be able to show that he understands the mechanism of the starting and reversing arrangements and that he is competent to deal with defects therein.</p> <p>d) Must be able to overhaul the engine, to adjust the working parts and to put the engine together again in good working condition. He must also understand how to make good the result of ordinary wear and tear to the machinery and how to correct defects from accidents.</p> <p>e) Must be familiar with the nature and properties of the various fuel oils used in internal combustion engines. He must understand what is meant by "Flash-Point".</p> <p>f) Must know the danger resulting from leakage from the fuel oil tanks and must understand the precautions to be taken against explosion.</p>	<p><i>Same syllabus as applicable for 2<sup>nd</sup> Class Motor Engine Driver Certificate, but of a more advanced character.</i></p>

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| <p><b>g) Must also be able, if required, to know his practical knowledge by actually working the engines of a motor-vessel in the presence of the examiner.</b></p> <p><b>h) Must be able to maintain and repair valves and pumps.</b></p> <p><b>i) Must have basic knowledge on Electricity:</b></p> <ul style="list-style-type: none"><li>- Voltage generator</li><li>- Direct current and alternating current</li><li>- Fuse and its working</li><li>- Battery maintenance</li><li>- Unit of current and power</li><li>- Parts of an electric motor</li><li>- Cooling of an electric motor</li><li>- Type of material of winding wire</li><li>- Insulation measuring meter</li></ul> <p><b>j) Must have knowledge on personal safety and engine room safety</b></p> <p><b>k) Must know the action to be taken in various emergencies in engine room – Fire, Flooding and fuel tank overflow.</b></p> <p><b>l) Must be able to explain:</b></p> <ul style="list-style-type: none"><li>- Precautions to be observed while bunkering</li><li>- What is MARPOL?</li></ul> |  |
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