

**Examination questions on the subject of „Ship power plants and auxiliary mechanisms”**

Item	O/T	Question	Correct answer
1.	O	In operational practice, advance speed coefficient and screw apparent slip coefficient are used because of: A. lack of knowledge of the actual temperature and density of the water in which the screw rotates B. lack of knowledge of the advance speed of the screw C. varying hull resistances at different speeds D. influence of variable draught at different loading conditions and longitudinal tilt effects	<div><div></div><div>B</div><div></div><div></div></div>
2.	O	Energy losses due to motor cooling are as follows: A. 20÷30% B. 5÷10% C. 30÷40% D. 10÷15%	<div><div>A</div><div></div><div></div><div></div></div>
3.	O	Vessel propulsion systems with permanent propellers and slow-running engines have the highest propulsion efficiency due to: A. high efficiency of overall slow-running engines (also partially) B. propeller capability of operating within optimum speed ranges C. direct coupling of the propeller and engine, high engine efficiency, low speeds corresponding to high efficiency propellers D. high overall efficiency and low engine speed (also partially)	<div><div></div><div></div><div>C</div><div></div></div>
4.	O	The emergency generator shall be located: A. In the engine room next to the main engine B. In the aggregate engines room C. In a special compartment at the level of the main deck or above D. In a safe place - in the steering apparatus room (requirement of PRS - Polish Register of Shipping- or other classification society - outside the main and auxiliary engine rooms, shall be in located in another space separated by a watertight bulkhead)	<div><div></div><div></div><div>C</div><div></div></div>
5.	O	The power output of the emergency generator should: A. Be sufficient for independent unloading operations B. e sufficient for the independent start-up of the engine room from the "cold ship" state and power supply of necessary equipment from the point of view of the ship's safety. C. Be able to supply all refrigerated containers on container ships	<div><div></div><div>B</div><div></div><div></div></div>

		D. Be able to power up the ship's lighting while the ship is stationary at the roadstead	
6.	O	<p>The emergency generator shall be supplied by:</p> <p>A. Residual fuel - HFO</p> <p>B. Distilled fuel - DO or MGO</p> <p>C. Any type of HFO and DO fuel</p> <p>D. Other type of fuel</p>	<div> <div></div> <div>B</div> <div></div> <div></div> </div>
7.	O	<p>The purpose of cooling a combustion engine is to:</p> <p>E. Maintaining the lowest possible temperature of all engine components</p> <p>F. Maintaining the highest possible temperatures of all engine components</p> <p>G. Maintaining the highest possible temperatures of all engine components during manoeuvring</p> <p>H. Maintaining in the cooled components constant, permissible average temperatures regardless of load and aligning them as much as possible</p>	<div> <div></div> <div></div> <div></div> <div>D</div> </div>
8.	O	<p>The waste boiler is installed in the exhaust gas system of:</p> <p>A. One of the auxiliary engines</p> <p>B. Auxiliary engines (common exhaust line)</p> <p>C. Main engine</p> <p>D. All the answers above are correct</p>	<div> <div></div> <div></div> <div>C</div> <div></div> </div>
9.	O	<p>The compressed air system must have:</p> <p>A. At least one functional air compressor</p> <p>B. At least two air compressors, one of which must have an independent drive</p> <p>C. As many air compressors as there are combustion engines in the engine room (main and auxiliary)</p> <p>D. At least four air compressors - two in the starter installation and two in the automation (control) system</p>	<div> <div></div> <div>B</div> <div></div> <div></div> </div>
10.	O	<p>Lubrication of the cylinder slide surface of two-stroke, slow-running engines is carried out from a separate lubrication system. Compared to circulating lubricating oils, these oils are characterised by:</p> <p>A. Low value of the total alkaline number and higher viscosity</p> <p>B. High value of total alkaline number and higher viscosity</p> <p>C. High value of total alkaline number and lower viscosity</p> <p>D. None of the above</p>	<div> <div></div> <div>B</div> <div></div> <div></div> </div>
11.	O	<p>The bilge system of the vessel shall be operated by:</p> <p>A. One high capacity, self-propelled pump</p> <p>B. At least two pumps</p> <p>C. One high capacity pump suspended on the main drive engine</p>	<div> <div></div> <div>B</div> <div></div> </div>

		D. One high capacity pump suspended on the emergency engine		
12.	O	<p>The objective of the ballast installation on a cargo vessel is:</p> <p>A. Ensuring adequate draught of the ship, depending on external conditions</p> <p>B. Correction of lateral inclinations and alteration of the ship's trim</p> <p>C. Ensuring that the ship is permanently drained regardless of loading condition</p> <p>D. Ensuring that the ship is adequately drained, depending on the degree of water salinity</p>	<div></div> <div>B</div> <div></div> <div></div>	
13.	O	<p>The steam system of the engine room should be designed in such a way that the utilization boiler during driving in the sea, with full power of the main engine:</p> <p>A. Fully covers the power plant steam demand</p> <p>B. Cover in 60 % of the total steam engine room demand, the rest is provided by a fired boiler</p> <p>C. Cover in 75 % of the total steam engine room demand, the rest is provided by a fired boiler.</p> <p>D. Cover in 80 % of the total steam engine room demand, the rest is provided by a fired boiler.</p>	<div>A</div> <div></div> <div></div> <div></div>	
14.	O	<p>In order to achieve the appropriate effects of gravity sedimentation in settling tanks, the temperature of the fuel should be about:</p> <p>A. 30 °C</p> <p>B. 50 °C</p> <p>C. 65 °C</p> <p>D. 70 °C</p>	<div></div> <div>B</div> <div></div> <div></div>	
15.	O	<p>In the residual fuel purification system prior to the centrifuge, the fuel temperature shall be maintained at a level of:</p> <p>A. 70 ÷ 100 °C</p> <p>B. 50 ÷ 70 °C</p> <p>C. 100 ÷ 120 °C</p> <p>D. 120 ÷ 140 °C</p>	<div>A</div> <div></div> <div></div> <div></div>	
16.	O	<p>16. Cavitation in the centrifugal pump may be caused by:</p> <p>A. pump stopping</p> <p>B. throttled valve on the pump suction</p> <p>C. increase in pump efficiency</p> <p>D. decrease in the capacity required by the pump</p>	<div></div> <div>B</div> <div></div> <div></div>	

17.	O	<p>2. Increase in fuel centrifuging efficiency will result in:</p> <p>A. improved separation of water from the fuel and reduced purification of fuel from solid pollutants</p> <p>B. deterioration of fuel purification from water and solid pollutants, may (but not necessarily) cause the liquid seal in the purifier to be broken</p> <p>C. does not affect the quality of the purification</p> <p>D. improvement of fuel purification quality due to increased particle swirl in the inter-disc zone</p>	<div></div> <div>B</div> <div></div> <div></div>
18.	O	<p>3. In a properly constructed filter:</p> <p>A. Activation level of the contamination indicator is higher than that of the bypass valve</p> <p>B. The barrier strength level must be lower than the opening level of the bypass valve</p> <p>C. The barrier strength level must be lower than the activation level of the contamination indicator</p> <p>D. The opening level of the bypass valve must be lower than the strength level of the barrier</p>	<div></div> <div></div> <div></div> <div>D</div>