


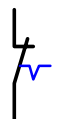
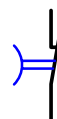

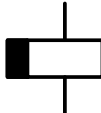
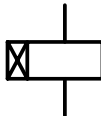
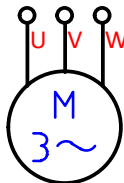


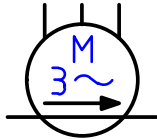
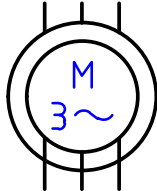
Examination questions on the subject of „Operation of shipboard electrical equipment”

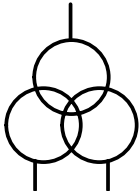
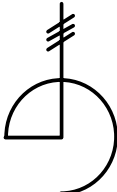
Operational level			
Operation of shipboard electrical equipment			
Questions			
O/T - means Basic/Advanced			
Item	O/T	Question	Correct answer
1.	O	<p>Electrical diagrams, which represent all objects, functional elements, their connections and connection points with the use of symbols, so called basic diagrams, are:</p> <ul style="list-style-type: none"> A. structural diagrams, B. functional diagrams, C. conceptual diagrams, D. assembly diagrams. 	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; text-align: center; line-height: 40px;">C</div>
2.	O	<p>In accordance with the IEC, the symbol</p>  <p>represents:</p> <ul style="list-style-type: none"> E. NC contact, F. NO contact, G. switch contact, H. switch-off contact. 	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; text-align: center; line-height: 40px;">B</div>
3.	O	<p>In accordance with the IEC, the symbol</p>  <p>represents:</p> <ul style="list-style-type: none"> I. NC contact, J. NO contact, K. switch contact, L. switch-off contact. 	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; text-align: center; line-height: 40px;">A</div>

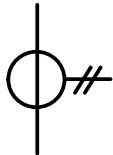
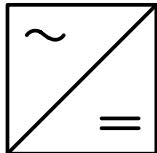
4.	O	<p>In accordance with the IEC, the symbol</p>  <p>represents:</p> <ul style="list-style-type: none">A. NC to NO contact,B. NO to NC contact,C. switch contact without break,D. switch contact with break.	<table><tr><td></td></tr><tr><td></td></tr><tr><td></td></tr><tr><td>D</td></tr></table>				D
D							
5.	O	<p>In accordance with the IEC, the symbol</p>  <p>represents:</p> <ul style="list-style-type: none">A. NC contact,B. NO contact,C. NC contact of thermobimetallic relay,D. switch off contact with break.	<table><tr><td></td></tr><tr><td></td></tr><tr><td>C</td></tr><tr><td></td></tr></table>			C	
C							
6.	O	<p>In accordance with the IEC, the symbol</p>  <p>represents:</p> <ul style="list-style-type: none">A. NO contact, shorting with delay when opening,B. NO contact, shorting with delay when returning,C. NC contact, shorting with delay when returning,D. NC contact, shorting with delay when opening.	<table><tr><td></td></tr><tr><td></td></tr><tr><td>C</td></tr><tr><td></td></tr></table>			C	
C							

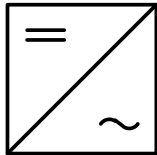
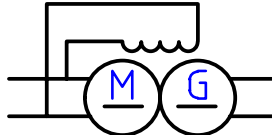
7.	O	<p>The diagrams are used to control the installation of electrical connections in buildings during their operation and to check during repairs are:</p> <ul style="list-style-type: none"> A. structural diagrams, B. functional diagrams, C. conceptual diagrams, D. assembly diagrams. 	<div style="border: 1px solid black; height: 40px; width: 40px; margin: 0 auto; position: relative;"> <div style="position: absolute; bottom: 5px; right: 5px; background-color: white; color: black; font-weight: bold;">D</div> </div>
8.	O	<p>The task of the block diagrams is to:</p> <ul style="list-style-type: none"> A. show the objects or their most important elements and their tasks and interrelationships, B. show electrical connections in objects, C. show the main rooms (blocks) on the ship, D. to show block representations of equipment parts. 	<div style="border: 1px solid black; height: 40px; width: 40px; margin: 0 auto; position: relative;"> <div style="position: absolute; top: 5px; left: 5px; background-color: white; color: black; font-weight: bold;">A</div> </div>
9.	O	<p>In accordance with the IEC, the symbol</p>  <p>represents:</p> <ul style="list-style-type: none"> A. NC contact, B. switch contact with break, C. switch contact, D. switch contact, open in intermediate position. 	<div style="border: 1px solid black; height: 40px; width: 40px; margin: 0 auto; position: relative;"> <div style="position: absolute; bottom: 5px; right: 5px; background-color: white; color: black; font-weight: bold;">D</div> </div>
10.	O	<p>In accordance with the IEC, the symbol</p>  <p>represents:</p> <ul style="list-style-type: none"> A. relay coil with delayed fallout of contacts when the relay is switched off, B. relay coil with accelerated fallout of contacts, C. relay coil with delayed operation, D. relay coil with accelerated operation. 	<div style="border: 1px solid black; height: 40px; width: 40px; margin: 0 auto; position: relative;"> <div style="position: absolute; top: 5px; left: 5px; background-color: white; color: black; font-weight: bold;">A</div> </div>

11.	O	<div>In accordance with the IEC, the symbol</div> <div></div> <div>represents:</div> <div><div>A. relay coil with delayed operation,</div><div>B. relay coil with accelerated fallout,</div><div>C. relay coil with delayed operation during excitation,</div><div>D. relay coil with accelerated operation.</div></div>	<table><tr><td></td></tr><tr><td></td></tr><tr><td>C</td></tr><tr><td></td></tr></table>			C	
C							
12.	O	<div>In accordance with the IEC, the symbol</div> <div></div> <div>represents:</div> <div><div>A. three-phase induction motor with cage rotor,</div><div>B. three-phase ring induction motor,</div><div>C. linear motor,</div><div>D. DC current motor.</div></div>	<table><tr><td>A</td></tr><tr><td></td></tr><tr><td></td></tr><tr><td></td></tr></table>	A			
A							

13.	O	<p>In accordance with the IEC, the symbol</p>  <p>represents:</p> <ul style="list-style-type: none">A. three-phase induction motor with cage rotor,B. three-phase ring induction motor,C. linear motor,D. DC current motor.	<table><tr><td></td></tr><tr><td></td></tr><tr><td>C</td></tr><tr><td></td></tr></table>			C	
C							
14.	O	<p>In accordance with the IEC, the symbol</p>  <p>represents:</p> <ul style="list-style-type: none">A. three-phase induction motor with cage rotor,B. three-phase ring induction motor,C. linear motor,D. DC current motor.	<table><tr><td></td></tr><tr><td>B</td></tr><tr><td></td></tr><tr><td></td></tr></table>		B		
B							
15.	O	<p>In accordance with the IEC, the symbol</p>	<table><tr><td></td></tr><tr><td>B</td></tr></table>		B		
B							

		 <p>represents:</p> <ul style="list-style-type: none"> A. double winding transformer, B. three-winding transformer, C. choke coil, D. current transformer. 	<div></div> <div></div>
16.	O	<p>In accordance with the IEC, the symbol</p>  <p>represents:</p> <ul style="list-style-type: none"> A. double winding transformer, B. three-winding transformer, C. choke coil, D. current transformer. 	<div></div> <div></div> <div>C</div> <div></div>

17.	O	<p>In accordance with the IEC, the symbol</p>  <p>represents:</p> <ul style="list-style-type: none">A. double winding transformer,B. three-winding transformer,C. choke coil,D. current transformer.	<table><tr><td></td></tr><tr><td></td></tr><tr><td></td></tr><tr><td>D</td></tr></table>				D
D							
18.		<p>In accordance with the IEC, the symbol</p>  <p>represents:</p> <ul style="list-style-type: none">A. rectifier,B. inverter,C. choke coil,D. autotransformer.	<table><tr><td>A</td></tr><tr><td></td></tr><tr><td></td></tr><tr><td></td></tr></table>	A			
A							

19.	O	<p>In accordance with the IEC, the symbol</p> <div></div> <p>represents:</p> <ul style="list-style-type: none">A. rectifier,B. inverter,C. choke coil,D. autotransformer.	<div><div></div><div>B</div><div></div><div></div></div>
20.	O	<p>The symbol represents:</p> <div></div> <ul style="list-style-type: none">a. DC-DC machine converter,b. AC-DC machine converter,c. DC-AC machine converter,d. AC-AC machine converter.	<div><div>A</div><div></div><div></div><div></div></div>
21.	O	<p>The following are not electrical power installations:</p> <ul style="list-style-type: none">A. electric machines,B. electric apparatus,C. signaling sensor,D. protective equipment.	<div><div></div><div></div><div>C</div><div></div></div>

22.	O	<p>The hold-to run of the "start" button is carried out by:</p> <ul style="list-style-type: none"> A. parallel connection to the start button of the auxiliary contact of the contactor switching on the device, B. serial connection to the start button of the auxiliary contact of the contactor switching on the device, C. parallel connection to the start button of the main contactor switching on the device, D. parallel and serial connection to the start button of the auxiliary contact of the contactor switching on the device. 	<div style="border: 1px solid black; padding: 2px; text-align: center;">A</div> <div style="border: 1px solid black; height: 15px; margin: 2px;"></div> <div style="border: 1px solid black; height: 15px; margin: 2px;"></div> <div style="border: 1px solid black; height: 15px; margin: 2px;"></div>
23.	O	<p>Operation of electrical power equipment is as follows:</p> <ul style="list-style-type: none"> A. operating and maintaining the equipment in good technical condition (service, maintenance, repair, assembly and monitoring), B. operating the machine, C. maintaining the equipment in good condition, D. carrying out repairs. 	<div style="border: 1px solid black; padding: 2px; text-align: center;">A</div> <div style="border: 1px solid black; height: 15px; margin: 2px;"></div> <div style="border: 1px solid black; height: 15px; margin: 2px;"></div> <div style="border: 1px solid black; height: 15px; margin: 2px;"></div>
24.	O	<p>The assessment of the operating equipment's technical condition is affected by:</p> <ul style="list-style-type: none"> A. visual inspection, reviews, testing and measurements, B. solely visual inspection and testing, C. solely tests and measurements, D. solely visual inspections and measurements. 	<div style="border: 1px solid black; padding: 2px; text-align: center;">A</div> <div style="border: 1px solid black; height: 15px; margin: 2px;"></div> <div style="border: 1px solid black; height: 15px; margin: 2px;"></div> <div style="border: 1px solid black; height: 15px; margin: 2px;"></div>
25.	O	<p>When overviews and visual inspection of the equipment are carried out within a fixed period of time:</p> <ul style="list-style-type: none"> A. monthly, B. within the dates and scope set out in the detailed operating rules for the individual devices, as laid down in the equipment's DTR (operating and maintenance manual) or operator's manual, C. at the acceptance of class, D. when required 	<div style="border: 1px solid black; height: 15px; margin: 2px;"></div> <div style="border: 1px solid black; padding: 2px; text-align: center;">B</div> <div style="border: 1px solid black; height: 15px; margin: 2px;"></div> <div style="border: 1px solid black; height: 15px; margin: 2px;"></div>
26.	O	<p>The ship's class is:</p> <ul style="list-style-type: none"> A. compliance of the ship's structure, workmanship and condition with the relevant requirements of the qualifying association, B. compliance of the ship's structure, workmanship and condition with the relevant national regulations, C. the level of technological advancement of on-board technology, 	<div style="border: 1px solid black; padding: 2px; text-align: center;">A</div> <div style="border: 1px solid black; height: 15px; margin: 2px;"></div> <div style="border: 1px solid black; height: 15px; margin: 2px;"></div>

		D. the region of the world where the ship is sailing.		
27.	O	The class of the ship is confirmed by: A. a certificate, B. an entry in IMO documents, C. a class certificate, D. an entry in shipboard documents.		<div><div></div><div></div><div>C</div><div></div></div>
28.	O	The period of validity of the class shall normally be: A. 24 moths, B. 3 years, C. 4 years, D. 5 years.		<div><div></div><div></div><div></div><div>D</div></div>
29.	O	For maintaining the class of basic sources of electricity, the following tests shall not be performed: A. load test, B. parallel operation test, C. reverse power backup test, D. asymmetric generator work test.		<div><div></div><div></div><div></div><div>D</div></div>
30.	O	The reason which does not constitute a loss of class shall be the following: A. sinking of the ship, B. more than one year's stay of the ship in port, C. providing the vessel for scrapping, D. shipowner's request for loss of class.		<div><div></div><div>B</div><div></div><div></div></div>
31.	O	The insulation resistance value of electrical circuits for a voltage range of 125 to 500V should be greater than: A. 0,5 Mohm, B. 1 Mohm, C. 2 Mohm, D. 3 Mohm.		<div><div></div><div>B</div><div></div></div>

32.	O	<p>The insulation resistance value of electrical machinery shall be greater than:</p> <p>A. 1 Mohm, B. 2 Mohm, C. 3 Mohm, D. 4 Mohm.</p>	<div>A</div>
33.	O	<p>The value of isolation resistance of the setting and starting apparatus measured cold should be greater than:</p> <p>A. 1 Mohm, B. 3 Mohm, C. 5 Mohm, D. 7 Mohm.</p>	<div>C</div>
34.	O	<p>The test voltage for electric testing of electrical insulation strength tests on electrical machinery with a value of 1 kW or more shall not be less than:</p> <p>A. 500 V, B. 1000 V, C. 1500 V, D. 2000 V.</p>	<div>C</div>
35.	O	<p>The leakage meter (measurement of insulation resistance on the ship) is based on the:</p> <p>A. serial ohmmeter, B. Wheatstone bridge, C. Thomson bridge, D. technical method.</p>	<div>A</div>
36.	O	<p>The basic protection against electric shock shall not be:</p> <p>A. appropriate isolation distances, B. insulation of all metal parts, C. use of fences and handrails, D. earth-leakage circuit breakers.</p>	<div>D</div>

37.	O	<p>The minimum degree of protection of electrical equipment in machinery rooms with increased humidity is as follows:</p> <p>A. IP 00, B. IP 22, C. IP 44, D. IP 55.</p>	<div> <div></div> <div>B</div> <div></div> <div></div> </div>
38.	O	<p>Maintenance of synchronous generators, if this is not specified in the DTR (operating and maintenance manual) or in the shipowner's manual, should be carried out every:</p> <p>A. 2 months, B. 3 months, C. 6 months, D. 1 year.</p>	<div> <div></div> <div></div> <div>C</div> <div></div> </div>
39.	O	<p>GTR maintenance, if this is not specified in the DTR (operating and maintenance manual) or the operator's manual, should be carried out at least every:</p> <p>A. 2 months, B. 3 months, C. 6 months, D. 1 year</p>	<div> <div></div> <div></div> <div></div> <div>D</div> </div>
40.	O	<p>Repair of power transformers, if this is not specified in DTR (operating and maintenance manual) or ship-owner's instructions, should be carried out every:</p> <p>A. 2 years, B. 4 years, C. 6 years, D. 8 lat.</p>	<div> <div></div> <div></div> <div></div> <div>D</div> </div>
41.	O	<p>Repair of electrical machinery, if this is not specified in the DTR (operating and maintenance manual) or the shipowner's manual, should be carried out every:</p> <p>A. 2 years, B. 4 years, C. 6 years, D. 8 years.</p>	<div> <div>A</div> <div></div> <div></div> <div></div> </div>

42.	O	<p>Fan inspection, if this is not specified in DTR Inspections of CO2 signaling, if this is not specified in the DTR (operating and maintenance manual) or shipowner's manual, should be carried out every, should be carried out every:</p> <p>A. 2 months, B. 3 months, C. 6 months, D. 1 yea.</p>	<div></div> <div>B</div> <div></div> <div></div>
43.	O	<p>Inspections of CO2 signaling, if this is not specified in DTR (operating and maintenance manual) or in the operator's manual, should be carried out as follows::</p> <p>A. monthly, B. 3 months, C. 6 months, D. 1 yea.</p>	<div>A</div> <div></div> <div></div> <div></div>
44.	O	<p>The following should be used for testing temperature sensors, e. g. pt100:</p> <p>A. multipurpose meter, B. computer with temperature sensor, C. temperature calibrator, D. mercury thermometer</p>	<div></div> <div></div> <div>C</div> <div></div>
45.	O	<p>The following are used to test the pressure sensors:</p> <p>A. multipurpose meter, B. computer with pressure sensor, C. new pressure sensor, D. hydraulic press.</p>	<div></div> <div></div> <div></div> <div>D</div>
46.	O	<p>The method of locating the damage of electrical equipment, so called child method, consists in:</p> <p>A. random check of all elements, B. comparison with other similar devices, C. dividing the device elements into two sections and handling the subsequent parts, D. subsequent checking of all components.</p>	<div></div> <div></div> <div></div> <div>D</div>
47.	O	<p>The method of locating the damage of electrical equipment, so called half-part method, consists in:</p> <p>A. random check of all elements, B. comparison with other similar devices,</p>	<div></div> <div></div> <div>C</div>

		<p>C. dividing the device elements into two sections and handling the subsequent parts,</p> <p>D. subsequent checking of all compo.</p>	<input type="text"/>
48.	O	<p>Acidic and alkaline batteries:</p> <p>A. may be located in the same room,</p> <p>B. must not be in the same room,</p> <p>C. may be located in the same room with separate ventilation,</p> <p>D. may be located in the same room with separate heating.</p>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
49.	O	<p>The highest value of the electrostatic potential is generated during:</p> <p>A. CO2 discharge from the cylinder,</p> <p>B. CO2 discharge from a rubber hose,</p> <p>C. acetylene discharge,</p> <p>D. motion of the belt drive at a speed of 15 m/s.</p>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
50.	O	<p>The primary protection of the ship against static electricity is:</p> <p>A. earthing of tanks and hulls,</p> <p>B. zeroing of tanks and hulls,</p> <p>C. insulation of tanks and hulls,</p> <p>D. application of static voltage to tanks.</p>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
51.	O	<p>The main source of microwave on board are:</p> <p>A. transformers,</p> <p>B. GPS equipment,</p> <p>C. radar equipment,</p> <p>D. radio equipment.</p>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>

52.	O	<p>For an overweight person, the microwaves:</p> <ul style="list-style-type: none"> A. will penetrate deeper into and convert to heat in the surface tissues, B. will penetrate shallowly and convert to heat in the surface tissues, C. will penetrate deeper and will not convert to heat in the surface tissues, D. will penetrate shallowly and will not convert to heat in the surface tissues. 	<div style="border: 1px solid black; height: 40px; width: 40px; margin: 0 auto; position: relative;"> <div style="position: absolute; top: 5px; left: 5px; width: 30px; height: 15px;"></div> <div style="position: absolute; top: 20px; left: 5px; width: 30px; height: 15px;"></div> <div style="position: absolute; top: 35px; left: 5px; width: 30px; height: 15px; text-align: center;">C</div> <div style="position: absolute; top: 50px; left: 5px; width: 30px; height: 15px;"></div> </div>
53.	O	<p>Measurement and control of microwave on ships (except school and fishing) shall be carried out:</p> <ul style="list-style-type: none"> A. every 4 years, B. every 2 years, C. every 3 years, D. every 6 months. 	<div style="border: 1px solid black; height: 40px; width: 40px; margin: 0 auto; position: relative;"> <div style="position: absolute; top: 5px; left: 5px; width: 30px; height: 15px; text-align: center;">A</div> <div style="position: absolute; top: 20px; left: 5px; width: 30px; height: 15px;"></div> <div style="position: absolute; top: 35px; left: 5px; width: 30px; height: 15px;"></div> <div style="position: absolute; top: 50px; left: 5px; width: 30px; height: 15px;"></div> </div>
54.	O	<p>Battery self-discharge during 28 days may should not exceed:</p> <ul style="list-style-type: none"> A. 10%, B. 20%, C. 25%, D. 30%. 	<div style="border: 1px solid black; height: 40px; width: 40px; margin: 0 auto; position: relative;"> <div style="position: absolute; top: 5px; left: 5px; width: 30px; height: 15px;"></div> <div style="position: absolute; top: 20px; left: 5px; width: 30px; height: 15px;"></div> <div style="position: absolute; top: 35px; left: 5px; width: 30px; height: 15px;"></div> <div style="position: absolute; top: 50px; left: 5px; width: 30px; height: 15px; text-align: center;">D</div> </div>
55.	O	<p>For proper battery operation, recharge unused batteries:</p> <ul style="list-style-type: none"> A. every week B. every month, C. every quarter, D. every year. 	<div style="border: 1px solid black; height: 40px; width: 40px; margin: 0 auto; position: relative;"> <div style="position: absolute; top: 5px; left: 5px; width: 30px; height: 15px;"></div> <div style="position: absolute; top: 20px; left: 5px; width: 30px; height: 15px; text-align: center;">B</div> <div style="position: absolute; top: 35px; left: 5px; width: 30px; height: 15px;"></div> <div style="position: absolute; top: 50px; left: 5px; width: 30px; height: 15px;"></div> </div>
56.	O	<p>The alkaline batteries are often additionally protected from:</p> <ul style="list-style-type: none"> A. discharge, B. low temperature, C. high temperature, D. vibrations. 	<div style="border: 1px solid black; height: 40px; width: 40px; margin: 0 auto; position: relative;"> <div style="position: absolute; top: 5px; left: 5px; width: 30px; height: 15px;"></div> <div style="position: absolute; top: 20px; left: 5px; width: 30px; height: 15px;"></div> <div style="position: absolute; top: 35px; left: 5px; width: 30px; height: 15px; text-align: center;">C</div> <div style="position: absolute; top: 50px; left: 5px; width: 30px; height: 15px;"></div> </div>

57.	O	<p>In a ship's network insulated with the correct isolation resistance, the electric shock current at contact with one of the phases is caused by:</p> <ul style="list-style-type: none"> A. high earth capacities, B. low earth capacities, C. high insulation resistance D. low insulation resistance. 	<div>A</div> <div></div> <div></div> <div></div>
58.	O	<p>The most important condition for taking emergency action in case of an electric shock is:</p> <ul style="list-style-type: none"> A. immediate notification to the medical service, B. checking that the infested person is conscious, C. checking whether the heart is acting, D. disconnection from the voltage. 	<div></div> <div></div> <div></div> <div>D</div>
59.	O	<p>To restore heart action after an electric shock, the heart massage should be performed at a frequency of approx.:</p> <ul style="list-style-type: none"> A. 5 presses per minute, B. 30 presses per minute, C. 60 presses per minute, D. 100 presses per minute. 	<div></div> <div></div> <div>C</div> <div></div>
60.	O	<p>Electrical work which does not need to be carried out by an accompanying person are as follows:</p> <ul style="list-style-type: none"> A. work on live GTR, B. work in hard-to-reach places (e. g. tunnel), C. work at heights above 1m, D. works on the compass deck. 	<div></div> <div></div> <div></div> <div>D</div>