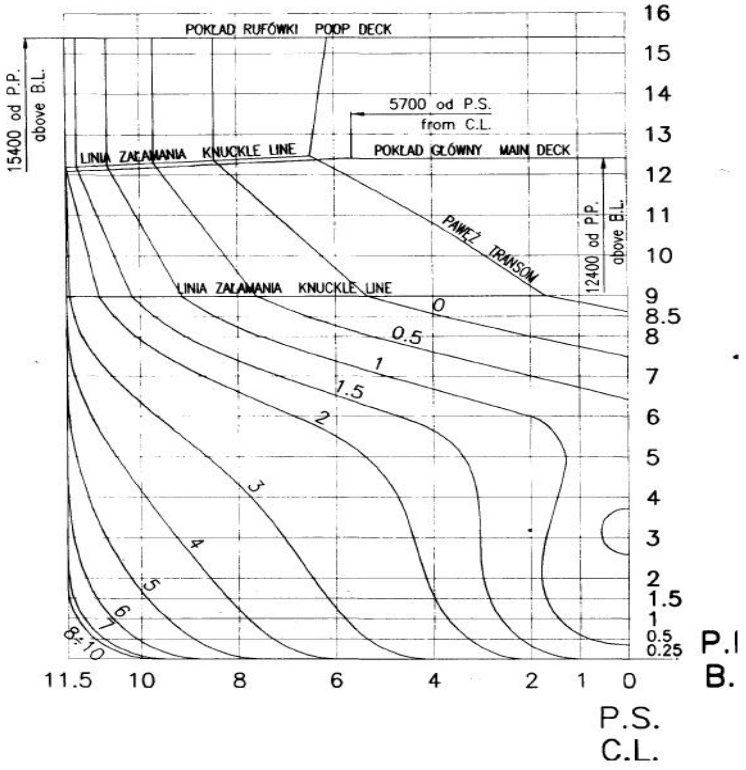
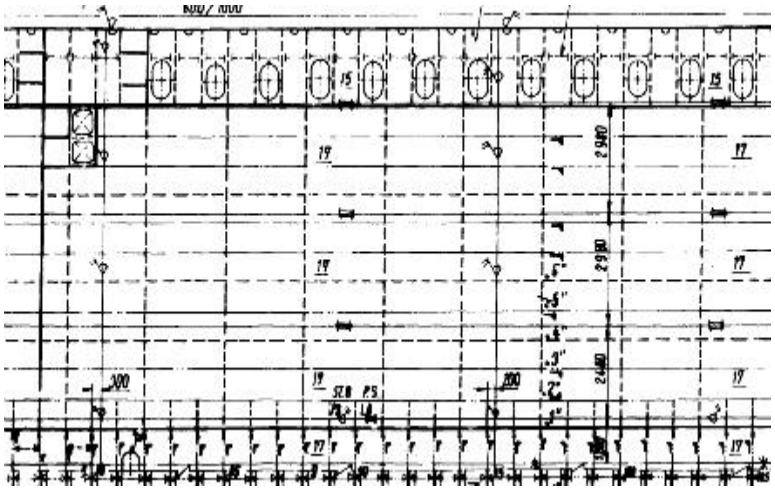
Examination questions from the "Ship construction and theory" course

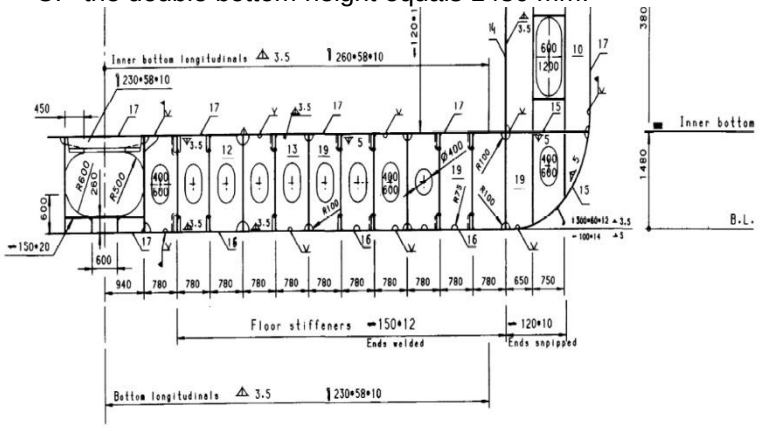
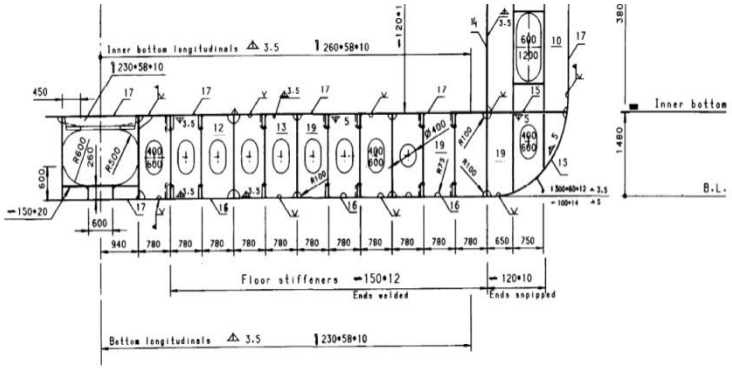
Operative level			
Ship construction and theory			
Item	**B/D**	**Question**	**Correct answer**
1.	B	When the ship's centre of gravity is located closer to the stern than the centre of buoyancy indicated by hydrostatic curves for the given average draught, then the ship: A. has a trim by stern, B. has a trim by head, C. is even-keeled.	A
2.	B	If a vertical coordinate of the ship's centre of gravity increases, the righting lever of the vessel for various angles of heel: A. decreases, B. increases, C. remains the same.	A
3.	B	Movement of liquid in a tank during vessel heeling causes the increase of: A. righting levels, B. vertical coordinate of the vessel centre of gravity, C. initial metacentric height.	B
4.	B	Transverse centre of buoyancy and metacentre point are in line with the action of the buoyant force: A. when the vessel has a trim by stern, B. only in case the vessel "stability" is lost, C. for small heel angles.	C
5.	B	Elevation of the transverse metacentre above the keel depends mainly on: A. vessel draft and width, B. buoyancy and deadweight tonnage, C. buoyancy and trim.	A
6.	B	What will be result of removal of TEU from the board? A. vertical coordinate of the vessel centre of gravity will increase, B. vertical coordinate of the vessel centre of buoyancy will increase, C. Initial metacentric height will increase.	C

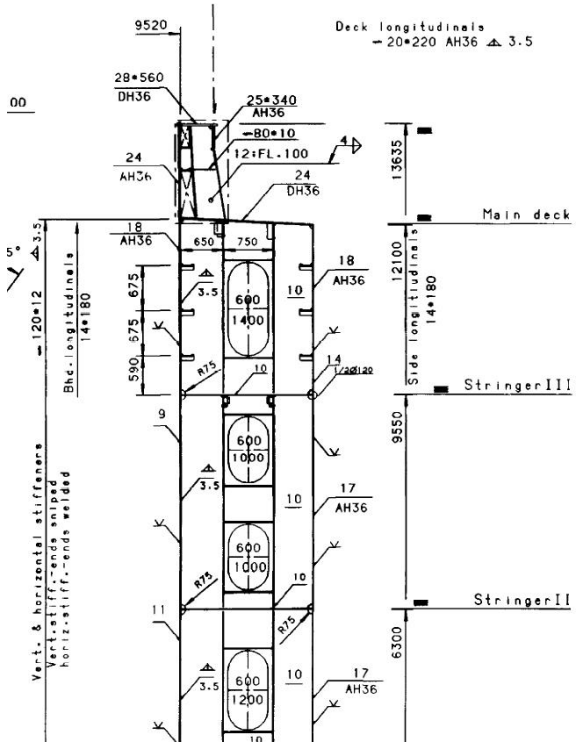
7.	B	Unit trimming moment is a moment that will cause: a) a change of average draught by 1 meter, b) a change of trim by 1 meter, c) a change of draught at head or stern by 1 meter,	B
8.	B	It is assumed that the centre of balance of a shipping container lifted with a heavy boom is located: A. at the same time as before lifting, B. at the height at which the shipping container is suspended, C. At the height of the head of the boom used for lifting.	C
9.	B	A geometric centre of a submerged vessel hull part is the: A. centre of balance, B. centre of waterline, C. centre of buoyancy.	C
10.	B	The righting arm of the vessel is calculated as follows: A. by subtracting the stability lever of the weight from the stability lever of the shape, B. by subtracting the elevation of the centre of gravity from the elevation of the centre of buoyancy, C. by subtracting the elevation of the centre of buoyancy from the elevation of the transverse metacentre.	A
11.	B	Hatch covers that close the loading hatches shall be compliant with the following requirements of: A. water tightness, B. water stream tightness, C. gas tightness.	B
12.	B	Stern door shall be compliant with the following requirements of: A. water tightness, B. water stream tightness, C. gas tightness.	A
13.	B	Branching ballast system is characterised by the fact that: A. Instead of one, there are two pipelines connected in a ring shape, B. All pipeline terminals converge in the machine room in a manifold and they can be controlled from there, C. Along the ship runs a ballast main from which pipeline terminals branch to specific ballast tanks and the valves are located on pipeline terminals.	B
14.	B	Sacrificial anodes installed in ballast tanks, heat exchangers or outside the ship below the water line are means of: A. cathodic corrosion protection, B. active corrosion protection, C. anodic corrosion protection,	C

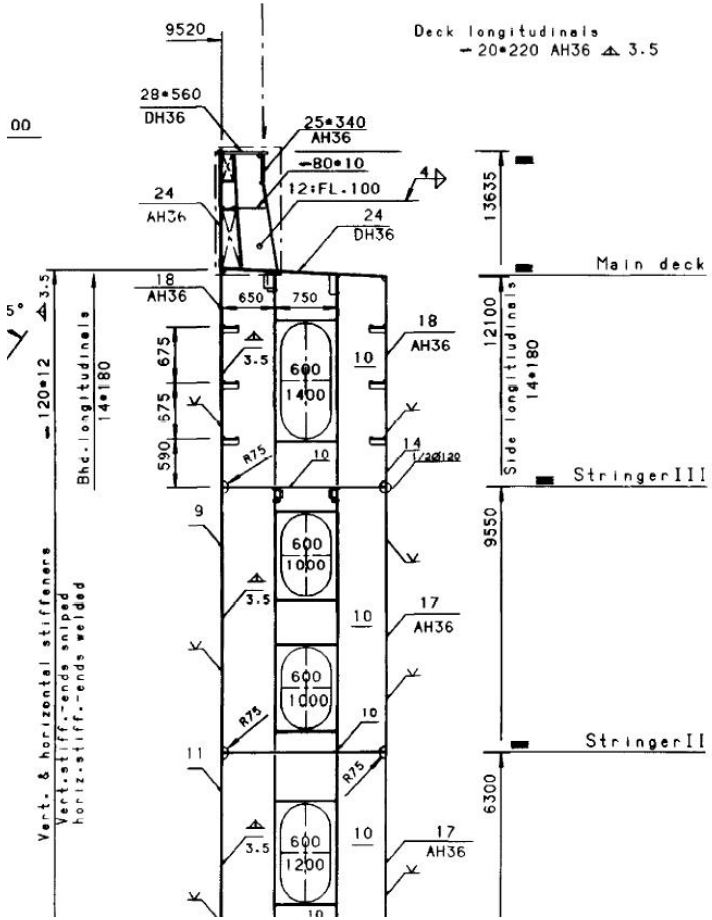
15.	B	Regulations by classification institutions require inspections of a submerged hull part of passenger vehicles at least once every: A. 2-3 years, B. 4 months, C. year.	C
16.	B	Cycloidal propellers are characterised by the fact that: A. the propeller blades are partially submerged in water, B. the propeller blades are permanently submerged in water, C. the screw is mounted under the vessel hull on an arm that rotates around the vertical axis.	B
17.	B	Vessel propellers with a uniform pitch: A. are used in propulsion systems with backing engines, B. are able to set the blade angle, C. add rotation to the movement of the water stream ejected outside the vessel.	A
18.	B	The main control machine shall be able to move the rudder to the angle up to: A. 45° to each side, at maximum draft of a vessel moving at maximum ahead service speed, B. 35° to one side, at maximum draft of a vessel moving at maximum ahead service speed, C. 35° to each side, at maximum draft of a vessel moving at maximum ahead service speed.	C
19.	B	Vessel steerage is: A. the vessel's capacity to change the direction of the movement, B. the ease with which the control device transmitter is operated, C. the vessel's susceptibility to leaving the set course.	A
20.	B	After distribution of the hydrodynamic force acting on the rudder blade to two components, parallel and transverse to the vessel travel direction, we get: A. the force of induced resistance and lift resistance, B. real lift force and real resistance force, C. normal force and shear force acting on the rudder blade.	B
21.	B	Ventilation ducts leading to rooms located below deck of a freeboard or to closed superstructures and deckhouses must be equipped with coamings with the following heights**:**	

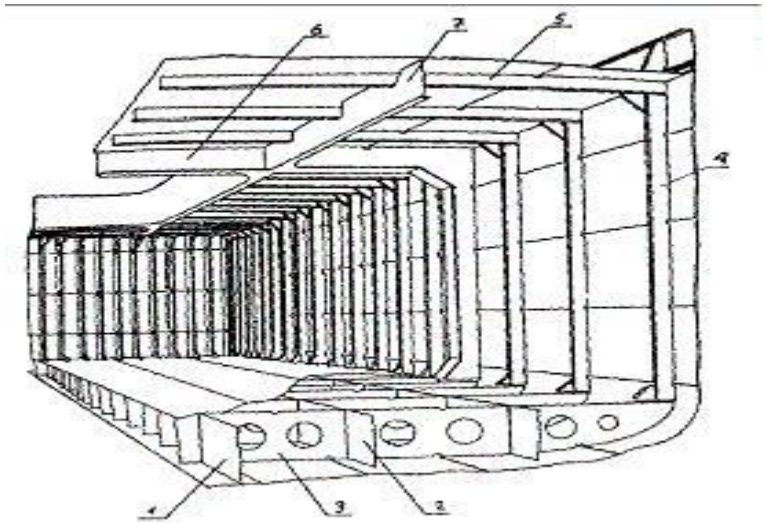
		A. region 1 – min 600 mm, region 2 – min 450 mm, B. region 1 – min 760 mm, region 2 – min 900 mm, C. region 1 – min 900 mm, region 2 – min 760 mm,	C
22.	B	The figure below presents: A. centreline sections, B. waterline sections, C. frame line sections 	C

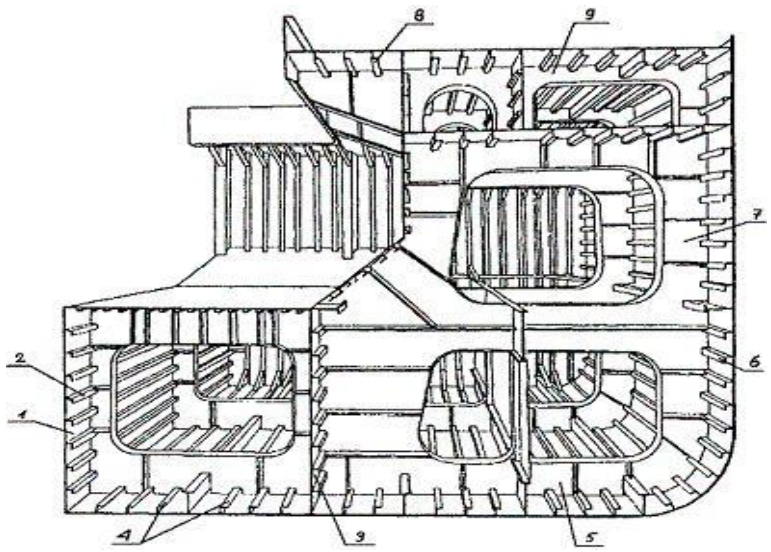
23.	B	The figure shows a view from above of the inner bottom (from the side of the hold). Select a sentence which is true: A. the bottom structure is longitudinally framed, B. the bottom structure is transversely framed, C. the bottom structure is framed in a mixed manner. 	A

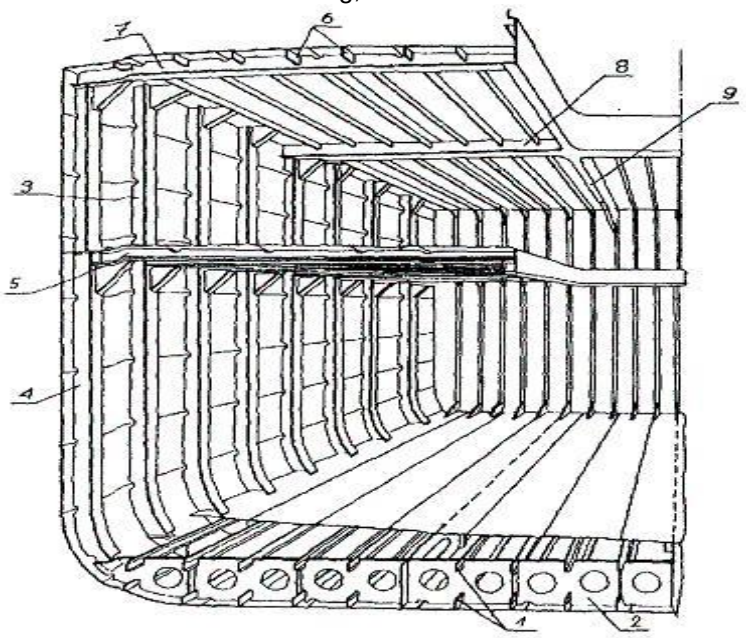
24.	B	The figure presents a section of a double bottom. Select the sentence which is true: A. the frame distance equals 780 mm, B. the keel thickness equals 20 mm, C. the double bottom height equals 1480 mm. 	C
25.	B	The figure presents a section of a double bottom. Select the sentence which is true: A. the bilge keel height equals 0.4 m. B. the bottom structure is an open grate, C. bottom longitudinals are made of bulb flats. 	C

26.	B	Location of a collision bulkhead in vessels is regulated by the provisions of: A. SOLAS 74 convention for all ships, B. SOLAS 74 convention for passenger vessels, cargo vessel construction regulations, C. SOLAS 74 convention for cargo vessels.	B
27.	B	The figure below presents a transverse cross-section through the main deck. Stringer plate thickness equals (in mm): A. 18, B. 24, C. 36. 	B

	B	The figure presents a transverse cross-section through the main deck. Which of the following sentences is true: A. the stringer plate is 20 mm thick B. the sheer strake is 18 mm thick C. deck beams are made of bulb flats 	B

29.	B	International Load Line Certificate is issued by: A. a classification society, B. the marine administration of the country where the vessel is registered, C. the shipyard that constructs the vessel.	A
30.	B	Gross and net registered tonnages included in the vessel's tonnage certificate are a basis for: A. International sailing in the given sailing region, B. Charging port fees, canal fees, cruising fees, towing fees... , C. vessel classification according to the IMO registry code.	B
31.	B	The figure below presents: A. a hull in transverse framing, B. a hull in longitudinal framing, C. a hull in mixed framing, 	A

32.	B	The figure below presents: A. a hull in transverse framing, B. a hull in longitudinal framing, C. a hull in mixed framing,  	B

33.	B	The figure below presents: A. a hull in transverse framing, B. a hull in longitudinal framing, C. a hull in mixed framing,  	C
34.	B	In afterpeaks with mixed framing, the most often framing type is: A. longitudinal, B. transverse, C. Longitudinal or transverse.	B

35.	B	Which ship length, reinforced by additional structural elements, is considered the nose part of the vessel: A. 0.05 L from PD, B. 0.15 L from PD, C. 0.25 L from PD,	C
36.	B	Shearing forces and bending moments are controlled usually: A. on all frames, B. on frames where transverse watertight bulkheads, C. only in the midship section.	B