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Unit 4 - Week 3

Week 3 Assignment

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment. **Due on 2018-09-05, 23:59 IST.**

1) Questions 1-6 are from the following table; A vessel has the following ½-areas of water plane at the drafts given ***1 point***

Draft (m)	0.25	0.75	1.25	2.25	3.25	4.25	5.25
½ area (m^2)	800	1600	2300	2600	2750	2800	2825

Below the 0.25 m there is an appendage volume 150 m3 Kb 0.2 m
The waterplane area at a draft of 3.25 m would be (in m2);

- a) 6500
- b) 5500
- c) 2750
- d) None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
b) 5500

2) The Simpson's multiplier for draft 1.25 would be; ***1 point***

- a) 4
- b) 2
- c) 3/2
- d) 1/2

No, the answer is incorrect.
Score: 0

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c) 4

d) 3

No, the answer is incorrect.
Score: 0

Accepted Answers:
c) 4

4) Functions of first moment of volume for the vessel is; ***1 point***

a) 36975

b) 79275

c) 88234

d) None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
b) 79275

5) The underwater volume upto the draft 5.25 m would be; ***1 point***

a) 12689 m^3

b) 24650 m^3

c) 24800 m^3

d) None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
c) 24800 m^3

6) KB for the vessel would be; ***1 point***

a) 2.38

b) 2.8

c) 1.2

d) none of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
a) 2.38

7) Suppose a weight 'w' is shifted horizontally by a distance 'd'. Shift in the center of gravity of the ship of displacement 'W' would be; ***1 point***

a) $\frac{w*d}{W}$

b) $\frac{W*d}{w}$

c) d/2

d) d

No, the answer is incorrect.
Score: 0

Accepted Answers:
a) $\frac{w * d}{W}$

8) If G_0G_1 is the horizontal shift in center of gravity of a vessel, and GM of the ship is known, the ship heels by φ given as; ***1 point***

a) $tan\phi = \frac{G_0G_1}{G_0M}$

b) $cos\phi = \frac{G_0G_1}{G_0M}$

c) $tan\phi = \frac{G_0M}{G_0G_1}$

d) None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
a) $tan\phi = \frac{G_0G_1}{G_0M}$

9) Free surface effect occurs in a vessel if; ***1 point***

a) Tank in the vessel is full

b) Tank in the vessel is half full

c) there is no tank

d) None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
b) Tank in the vessel is half full

10) Free surface moment is directly proportional to ***1 point***

a) Volume of the tank

b) 2^{nd} moment of area of the tank

c) waterplane area of the tank

d) none of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
b) 2^{nd} *moment of area of the tank*

11) Questions 11-15 are from the following problem. A vessel displacing 10000 tonnes KG 8.9m KM 9.4m;The vessel loads ballast water of RD 1.01 into a rectangular tank of length 30 m, breadth 20m depth 2m; The tank is filled upto 1m and has a centerline division to that height. Kg of ballast 0.5 m. Weight of the ballast is ***1 point***

a) 1000 tonne

b) 606 tonne

c) 490 tonne

d) none of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
b) 606 tonne

12) KG of the ship + ballast is ***1 point***

a) 8.9m

b) 8.0m

c) 8.42m

d) 0 m

No, the answer is incorrect.
Score: 0

Accepted Answers:
c) 8.42m

13) The virtual rise in center of gravity due to free surface effect is: ***1 point***

a) 0.476 m

b) 0.112m

c) 0 m

d) none of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
a) 0.476 m

14) KG of the vessel after including free surface effect is ***1 point***

a) 9.44m

b) 10.54m

c) 8.89m

d) 0m

No, the answer is incorrect.
Score: 0

Accepted Answers:
c) 8.89m

15) Free surface effect can be reduced by ***1 point***

a) partitioning the tank

b) increasing the wetted area

c) Heeling the vessel

d) none of the

No, the answer is incorrect.
Score: 0

Accepted Answers:
a) partitioning the tank

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