

**Indian Maritime University**  
(A Central University, Govt. Of India)  
**End Semester Examination Dec-2019/Jan-2020**  
**B. Tech(Marine Engineering)**  
Semester -VI  
**Double Hull Tanker Vessels**  
**(UG11E1601/2601)**

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Date: 11-01-2020

Max Marks: **70**

Time: 3 Hrs

Pass Marks: **35**

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**Part – A (compulsory)**

**Answer the following (10x2=20 Marks)**

1. Draw simple diagram to show double hull and double bottom constructions.
2. Define the term segregated ballast tank.
3. Mention any two points by which double hull tanker is superior to single hull.
4. Explain Dead weight tonnage.
5. Define Collision bulkhead.
6. Define the term Duct keel.
7. Define free surface effect.
8. Define COW and how it is made easier with DH Tankers.
9. Define the term Gas freeing.
10. Define the terms Sounding and Ullage.

**Part – B**

**Answer any 5 out of 7 questions (5 x 10= 50 marks)**

11. Write the table showing Phasing out of single hull tankers as per IMO.
12. Draw a Midship sectional view of a Double Hull tanker and label the parts.
13. Write in detail about the advantages and disadvantages of Double Hull tankers over Single hull tankers.
14. Draw and explain an Inert gas system of a Tanker vessel using boiler flue gas.
15. Draw and explain the operation of a submerged Cargo Pump for Chemical carriers.
16. With respect to tanker vessels explain,
  - a. Draft Survey (5 Marks)
  - b. Slop tank (5 Marks)
17. Write in detail about ballast water management.