

**INDIAN MARITIME UNIVERSITY**  
(A Central University Government of India)  
**END SEMESTER EXAMINATION-JUNE-JULY 2019**  
**DIPLOMA IN NAUTICAL SCIENCE**  
**SEMESTER-II**  
**SHIP CONSTRUCTION & STABILITY**  
**(UD11T2204)**

**Date: 27.06.2019**  
**Time: 2 hours**

**Max.Marks: 70**  
**Pass Marks: 28**

**Note:**

**Use of non- Programmable Scientific Calculator & M.V. Hindship Stability Particulars booklet are permitted.**

**PART-A** **30 marks**  
**SHIP CONSTRUCTION**

***Answer any three questions***

- Q1)** Sketch and label a Tween deck Cargo Ship (10 marks)
- Q2)** What information do you get from the following ships plans a) GA plan b) Capacity and Deadweight plan (10 marks)
- Q3)** Sketch and label hold Bilge pumping system of a bulk carrier (10 marks)
- Q4)** Sketch and label Ballast and Stripper pumping system (10 marks)

**PART-B** **40 MARKS**

***Answer any FOUR questions***

- Q5)** Explain/Describe with help of sketches Free Surface Effect and why the correction is always deducted. (10 marks)
- Q6)** A ship of 10,000t displacement, KG=8.3m carries Out the following cargo operations. (10 marks)

<b>Qty(t)</b>	<b>Loaded/Disch.</b>	<b>KG(m)</b>	<b>Dist. Off centreline</b>
200	Disch,	10.0	5m port
800	Disch.	2.3	4m stbd.
500	Disch.	5.2	3m port
250	Load	8.0	NIL
250	Load	12.0	NIL

If the final KM is 9.6m find the **LIST**.

**PART-B (Contd)**

- Q7)** M.V.HINDSHIP arrives at a river port in water of RD 1.014 (10 marks)  
has a displacement of 10,230t and GM (fluid) 0.82m,  
FSC= 0.077m. She loads 470t Cargo KG=9.8m. 150t of  
water ballast is run Into No.1 DB tank. Find her final  
GM (fluid)
- Q8)** A ship of LBP 120m is floating at a draft of 4.9 m forward (10 marks)  
and 6.3 m aft. If its COF is 2m abaft midships, (HF 2m  
aft or AF 58m) find its hydrostatic draft.
- Q9)** a) Why are loadlines important for ships (5 marks)  
b) Explain the relation between TPC and Draft (5 marks)

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