

**INDIAN MARITIME UNIVERSITY**  
(A Central University, Government of India)  
**M.Tech. (Marine Engineering & Management)**

May/June 2018 End Semester Examinations

**Semester-II**

**Marine Environment Protection & Energy Management (PG13T1203)**

**Date :30-05-2018**

**Time: 3 Hrs**

**Maximum Marks :100**

**Pass Marks :50**

**Note:** Answer any five questions. All questions carry equal marks.  
(5 x 20 = 100 Marks)

1. Discuss marine pollution problems related to shipping and port development, especially related to
  - a. Dredging
  - b. Oil spills from shipHighlight the pollution prevention initiatives taken by IMO in this context.
2. With reference to the International Convention for the prevention of pollution from ships (MARPOL) Annex VI discuss the following:
  - (a) Ship Energy Efficiency Management Plan (SEEMP);
  - (b) Energy Efficiency Operational Indicator (EEOI);
  - (c) Energy Efficiency Design Index (EEDI)
3. "Many energy saving devices have been fitted to improve energy efficiency of a ship". Discuss at least three devices to enhance energy efficiency of a ship.
4. a) State the differences between Global Warming and Climate Change  
b) Flag state and Coastal State Jurisdiction over the prevention of vessel source pollution on high seas.
5. Write Short notes on any four of the following:
  - a. UNFCCC
  - b. Market based measures for GHG reduction
  - c. Nitrogen Cycle on Earth
  - d. Energy Management and Energy Audit
  - e. Global warming potential
6. "Indirect method of assessing boiler efficiency is by heat loss method" Plan a energy audit scheme to pin point the areas of improvements.
7. Discuss Ballast Water Management '2004 and its onward regulations.
8. Discuss the ISO 5001:2011 System and ISO 19011:2002 on the basis of requirements and critical success factors