

INDIAN MARITIME UNIVERSITY

(A Central University, Government of India)

End Semester Examinations - June/July 2019

M. Tech. (Marine Engineering and Management)

Semester-II

Marine Environment Protection & Energy Management

(PG13T1203)

Date: 26-06-2019

Maximum Marks: 60

Time: 3hrs

Pass Marks: 30

Answer any five questions.

All questions carry equal marks.

(5 x 12 Marks = 60 Marks)

1. Describe a combined cycle power plant with emphasis on thermodynamic and heat transfer process cycles (12)
2. a) Discuss MARPOL with all its Annexes.
b) Define Marine Protected Area (8+4=12)
3. Discuss Energy Management System requirement, Policy and planning (12)
4. (a) Discuss various pollutants from ship emission resulting in atmospheric pollution. How these are regulated?
(b) With respect to formula for calculating EEDI discuss the following statements:
(i) Carbon dioxide emission is not linear in installed power
(ii) EEDI will increase fuel consumption in non boom condition (4+4x2=12)
5. (a) What are the marine pollution problems related to port development such as ballast water, dredging and spills from ships?
(b) What is corporate social responsibility and who are the stake holders and how it is implemented? (8+4=12)
6. Regarding Ballast water Management convention explain:
(a) Ballast Water Exchange Standard
(b) Ballast Water Performance Standard
(c) Treatment methods for ballast water
(d) Approval methods for treatment system using active and non-active substances. 4x3=12
7. Climate change is particularly relevant issue for India, not just from a economic view point but also from a technical, social and environmental perspective. Discuss (12)
8. Write Short notes on (Any four): (4x3=12)
 - a. UNFCCC
 - b. Market based measures for GHG reduction
 - c. Nitrogen Cycle on Earth
 - d. Energy Management and Energy Audit
 - e. Global warming potential
