

INDIAN MARITIME UNIVERSITY
(A Central University, Government of India)

May/June 2016 End Semester Examinations
B.Sc. (Nautical Science) - Fourth Semester (2013 batch onwards)

Marine Engineering, Automation & Control Systems Paper – IV (T 2412)

Date : 02.07.2016

Maximum Marks: 70

Time: 3 Hrs

Pass Marks : 35

Note: Answer any **Seven** questions. All questions carry equal marks.

1. Explain various groups into which liquid chemical cargoes are grouped into. (10 Marks)
2. Describe with neat sketches explain the working of a two stroke engine. (10 Marks)
3. List down and explain the physical & chemical properties of important cargoes given in ICS data sheet (10 Marks)
4. Draw and explain the PV diagram of a 2 stroke engine (10 Marks)
5. (a) What is the purpose of valve rotator in a 4 stroke engine (6 Marks)
(b) List out the differences between 4 stroke and 2 stroke engines (4 Marks)
6. (a) Sketch and describe an oily water separator (6 Marks)
(b) What are the regulations governing the discharge of oily water from ships (4 Marks)
7. (a) Define flammability, toxicity, reactivity and corrosivity with respect to liquid chemicals cargoes (5 Marks)
(b) List out the different types of propellers (5 Marks)
8. (a) Write the different types of fuels and their properties (5 Marks)
(b) Draw and label the fuel oil line from storage tank to main engine fuel pump (5 Marks)
9. (a) List out the various types of deck machinery onboard ships along with the safety features incorporated in them (6 Marks)
(b) Define the terms Pitch, Pitch Angle, Real Slip and Apparent slip (4 Marks)
