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***B.Tech. Degree IV Semester Examination in Marine Engineering
May 2019***

**MRE 1406 SEAMANSHIP AND NAVIGATION
(2013 Scheme)**

Time: 3 Hours

Maximum Marks: 100

(5 × 20 = 100)

- I. (a) Sketch and describe the horizontal screening of navigational lights on a power driven vessel of more than 50 meters LOA.
(b) Write short notes on bitter end and spurling pipe with diagram if appropriate.

OR

- II. Write short notes on:
(i) Double Bottom Tanks
(ii) Keel
(iii) Kenter joining shackle
(iv) Galley

- III. Describe the working and purpose of the following navigational equipment:
(i) Voyage Data Recorder
(ii) Automatic Identification System
(iii) Sextant
(iv) Gyro

OR

- IV. Explain the working principle and errors of echo sounder. Describe the various controls of echo sounder.

- V. Explain with suitable sketches:
(i) Load Line marks
(ii) Stockless anchor

OR

- VI. (a) Describe the general procedure for lowering a lifeboat on gravity davits.
(b) List out the equipment available inside a liferaft.

- VII. (a) Prepare a muster list for a bulk carrier with a complement of 20 persons.
(b) What is the purpose of Rescue boat? Name four equipment that must be available on a rescue boat.

OR

- VIII. Write short notes on:
(i) SART & EPIRB
(ii) Hydrostatic Release Unit and its uses.

- IX. Briefly discuss the various Annexes of MARPOL.

OR

- X. Sketch ten different rope knots and describe their use.
