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***B.Tech. Degree IV Semester Examination in Marine Engineering
May 2018***

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

Time : 3 Hours

Maximum Marks : 100

(5 × 20 = 100)

- I. (a) Sketch and label the different parts of an anchor.
 (b) Explain the different circumstances under which a vessel may be required to anchor.
 (c) What are the duties of a lookout during anchor watch?

OR

- II. Write short notes on:
 (i) Wheelhouse.
 (ii) Steering platform.
 (iii) Hogging & sagging.
 (iv) Hatch covers.

- III. Describe the working of the following navigational equipment:
 (i) Barometer.
 (ii) Magnetic compass.
 (iii) Doppler speed log.
 (iv) Echo sounder.

OR

- IV. Explain the working principle and main features of radar, describe the various controls?

- V. Explain with suitable sketches:
 (i) GHA.
 (ii) Celestial sphere.
 (iii) Declination.
 (iv) Position line.

OR

- VI. (a) List out lifeboat equipment for a vessel on international voyages as per SOLAS.
 (b) What is the purpose of life raft on board a ship? Describe a life raft.

- VII. (a) Draw and explain the working of a sea anchor.
 (b) What is a rescue boat? State any four salient features.

OR

- VIII. Write short notes on:
 (i) Oil record book.
 (ii) Ballast water management.

- IX. (a) What are the criteria for the discharge of oil from the cargo space of a tanker under Annexure 1 of MARPOL 73/78?
 (b) Describe the procedure for launching of a life raft without davits.

OR

- X. (a) What are the pyrotechnics required to be carried in the lifeboat of a vessel on international voyages. Describe their use.
 (b) Describe the action/procedure to be followed on a lifeboat after abandoning ship.