

***B. Tech Degree IV Semester Examination in Marine Engineering
May 2012***

MRE 406 SEAMANSHIP AND NAVIGATION

Time : 3 Hours

Maximum Marks : 100

(Each questions carries 20 marks)

- I. (a) Who is the second in command in a vessel?
(b) Who manages the day today routine work and job allocation of Engine room Staff in a container vessel?
(c) What is the highest deck in a vessel known as? What equipment can one see there?
(d) Name the compartment used for the storage of cargo. Is this storage space water tight?
(e) Explain the main equipment provided on the fore-castle of a vessel. How do we use those?

OR

- II. (a) What is the use of mooring winches?
(b) Explain the following:
(i) Bitter end
(ii) Bow Stopper
(c) Why life boat drills are necessary? How often these are to be carried out?
(d) What do you understand by 'Man over Board'?
(e) What is a Capstan? Where do we use it?
- III. (a) Draw a sketch of a power driven vessel 100 metre long depicting all navigational lights (Top view) with names, colour, arc of visibility, range and position.
(b) Can we use visual means of signals? If so what are the means available.
(c) What are Morse code and sound signals?

OR

- IV. (a) Draw a sketch of a vessel moored at the jetty showing all the mooring lines with their names.
(b) What is Rat guard? Where is it used?
(c) Indicate the uses of the following:
(i) Reef Knot
(ii) Rolling Hitch
(iii) Sheet Bend
(iv) Bow line
(v) Carrick Bend
(vi) Clove Hitch

- V. Briefly describe the following:
(i) Magnetic deviation of a compass
(ii) Principles of a gyro compass and its advantage
(iii) Celestial Navigation and star identification
(iv) Zone time its conversion to GMT and vice versa

OR

- VI. (a) Brightest Stars and use of star charts or star globe
(b) Instruments used for measuring speed and depth
(c) GPS and its advantages
(d) Voyage recorder

- VII. (a) How much will be the carrying capacity of a life boat?
(b) What type of storage of boats is most commonly used in new generation vessels? Why?
(c) What is a HRU? Where is it used?
(d) State the use of SART and EPIRB.

OR

- VIII. (a) What are the emergency station signals? What is the action on hearing these?
(b) Briefly narrate the uses of pyro techniques available onboard.
(c) What do you understand by on load release and off load release system?
(d) What is Muster list? Who prepares it?

- IX. (a) Briefly explain the procedures of launching and boarding a life raft.
(b) If a life raft gets inflated inadvertently on board what is the next course of action to prepare for use again.
(c) When will you get the first issue of water ration after abandoning ship?

OR

- X. (a) Why MARPOL was introduced on vessels?
(b) What type of pollution is the worst in marine environment? How to combat this?
(c) What are the Thermal Protective devices we have for use in the Survival Crafts?