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***B.Tech. Degree IV Semester Regular Examination in
Marine Engineering April 2021***

**19-208-0406 SEAMANSHIP AND NAVIGATION
(2019 Scheme)**

Time: 3 Hours

Maximum Marks: 60

(5 × 15 = 75)

- I. (a) Describe the important equipment and fittings on forecastle deck of a ship. (8)
(b) As an engineer on duty what measures will you take if informed that adverse weather conditions are expected soon? (7)
- OR**
- II. (a) What are the different purposes of Double Bottom Tanks? (5)
(b) What are the roles and responsibilities of 2nd Engineer on board a vessel? (5)
(c) Where is the steering platform situated and what are the important equipment there? (5)
- III. (a) Enumerate the importance of lashing/securing the anchor when the vessel is on the high seas and what are the arrangements? (7)
(b) Sketch any 4 knots/ hitches and state their uses. (8)
- OR**
- IV. (a) What are the precautions to be observed while at anchor? (5)
(b) Explain the precautions to be taken during mooring operations while making fast the ship alongside a berth. (5)
(c) What are the purposes for which flags are used on board ship? (5)
- V. (a) Explain the principle behind range and bearing discrimination in radar. (5)
(b) What are the features of AIS? (5)
(c) Explain the working of GPS. (5)
- OR**
- VI. (a) What type of barometer is used on ships? Explain its functioning. (6)
(b) Explain how time is managed on board a vessel proceeding on an Easterly course from Longitude 30° West to 105° East. (5)
(c) What is International date line, what procedures are necessary while crossing same? (4)
- VII. (a) Prepare a muster list for abandon ship signal on a bulk carrier with a complement of 20 persons. (10)
(b) What is the purpose of Rescue boat? List out four compulsory requirements for a rescue boat. (5)
- OR**
- VIII. Write short notes on :
(i) SART (5)
(ii) EPIRB (5)
(iii) Hydrostatic Release Unit (5)

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- IX. (a) Briefly discuss the Annexes of MARPOL. (7)
- (b) What are the pyrotechnics carried in the lifeboat of a vessel on international voyage? Explain their use. (8)

OR

- X. (a) What are the entries to be made in the Oil Record Book of a container vessel? (5)
- (b) What are the latest emission control measures in place? (5)
- (c) What is ballast water management? (5)
