

--	--	--	--	--	--	--	--

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

**19-208-0404 MARINE AUXILIARY MACHINERY I
(2019 Scheme)**

Time: 3 Hours

Maximum Marks: 60

(5 × 15 = 75)

- I. (a) Sketch a Sea water cooling system for a motor vessel showing the various components / equipment in the system. (7)
(b) Sketch the equipment layout suitable for machinery space of a large ocean going vessel showing the important machinery and tanks in the machinery space. (8)
- OR**
- II. (a) With the help of a neat sketch explain the fuel oil system for a marine diesel engine. (10)
(b) Mention the colour code used for various piping systems in the machinery space of a ship. (5)
- III. (a) Briefly explain the preparations involved and procedure to be followed for bunkering fuel oil in a ship. (10)
(b) What is the significance of sampling during bunkering and the subsequent testing of the sample in a shore laboratory? (5)
- OR**
- IV. (a) Write short notes on operation and maintenance of a two-stage reciprocating air compressor. (10)
(b) What are the uses of compressed air onboard a ship? (5)
- V. (a) Write short notes on the following: (10)
(i) Quick closing valves
(ii) Pressure reducing valves
(b) What is a duplex filter? Where do you find these used in a machinery space? (5)
- OR**
- VI. (a) Explain the maintenance that needs to be carried out on a centrifugal pump. (10)
(b) List the different packing materials used onboard a ship. (5)
- VII. (a) Sketch and describe a shell and tube type of heat exchanger. (10)
(b) What is the function of a hydrophore in the Domestic Fresh Water system? (5)
- OR**
- VIII. (a) With the help of a neat sketch explain the working of an evaporator type of fresh water generator. (10)
(b) List a few deck machinery used on a ship along with the purpose of those machinery. (5)
- IX. (a) Explain how fuel oil bunkered on a ship is treated / prepared for combustion in a diesel engine. (10)
(b) What is a self-desludging purifier? (5)
- OR**
- X. (a) Explain the step by step procedure of desludging a heavy fuel oil purifier. (10)
(b) State the merits and demerits of using residual fuels for marine engines. (5)