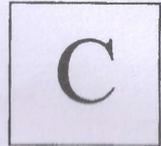


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B.Tech. Degree IV Semester Regular/Supplementary Examination in Marine Engineering June 2022

**19-208-0404 MARINE AUXILIARY MACHINERY-1
(2019 Scheme)**

Time: 3 Hours

Maximum Marks: 60

Course Outcome

On successful completion of the course, the students will be able to:

- CO1: Understand Engine room lay out, piping arrangements and fittings of ships.
 CO2: Gain knowledge of bunkering procedures, blowers and compressors.
 CO3: Understand the different of valves and cocks, filters, pumps, packings and seals used on board ship.
 CO4: Understand the working of heat exchangers, evaporators and deck machinery.
 CO5: Gain knowledge about the oil purification and treatments.

Bloom's Taxonomy Levels (BL): L1 – Remember, L2 – Understand, L3 – Apply, L4 – Analyze,
 L5 – Evaluate, L6 – Create

PO – Programme Outcome

	(5 × 15 = 75)	Marks	BL	CO	PO
I. (a)	Sketch and describe the jacket cooling water system for a Marine diesel engine.	10	L2	1	1.4.1
(b)	Explain the function of Hydrophore system used in merchant vessels.	5	L1	1	1.4.1
OR					
II. (a)	Sketch and describe the Lubricating oil system for a Marine diesel engine.	10	L2	1	1.4.1
(b)	What are the colour code followed onboard for identifying sea water, Fresh water, Lubricating oil, Fuel oil and Bilge piping systems?	5	L1	1	1.4.1
III. (a)	Explain the preparations taken for bunkering of Heavy Fuel oil onboard.	10	L1	2	1.4.1
(b)	Explain the sampling procedure followed onboard for ensuring the bunker quality.	5	L2	2	1.4.1
OR					
IV. (a)	Sketch and describe the construction details of a 2-stage, water cooled air compressor.	10	L1	2	1.4.1
(b)	What are the uses of compressed air onboard?	5	L2	2	1.4.1
V.	Sketch and describe the construction of a screw down non-return valve.	15	L2	3	1.4.1
OR					
VI.	Sketch and describe the function of a Duplex filter. Explain how priming of these filters are done.	15	L2	3	1.4.1
VII.	With the help of a neat figure explain the operation of an evaporation type of Fresh water Generator.	15	L3	4	1.4.1
OR					
VIII.	With the help of a neat figure explain the construction details of a shell and tube type of heat exchanger.	15	L3	4	1.4.1
IX.	Explain the procedure for making entry in to an enclosed space. What are the dangers involved while entering such compartments?	15	L2	5	1.4.1
OR					
X.	With suitable figures explain the principle of operation of a self de-sludging purifier.	15	L2	5	1.4.1

Bloom's Taxonomy Levels

L1 – 20%, L2 – 60%, L3 – 20%,