

# GUJARAT TECHNOLOGICAL UNIVERSITY

## MARINE ENGINEERING

### B. E. SEMESTER: VII

Subject Name: **Marine Auxiliary Machinery-III**

Subject Code: **171801**

Teaching Scheme				Evaluation Scheme			
Theory	Tutorial	Practical	Total	University Exam (E)		Mid Sem Exam (Theory) (M)	Practical (Internal)
				Theory	Practical		
3	1	0	4	70	30	30	20

Sr. No	Course Content	Total Hrs.
1.	<b>Marine Refrigeration and A.C. Plants:</b>  design and Constructional details of various equipment for refrigeration and Air-conditioning Refrigerators used in marine practice and their justification, Control of temperature in various rooms in Cargo or domestic Plants. Control of Humidity in A.C. Plants. Operation and maintenance of Plants. Control and Safety equipment.	20
2.	<b>Machinery and Cargo Ventilation:</b>  Design and constructional details, International Requirements, Operation & maintenance of Equipment.	4
3.	<b>Noise and Vibrations:</b>  Elements of aerodynamics and hydrodynamics sound, Noise sources on Ships and noise suppression techniques, Noise level measurement. Various modes of vibration in a ship (i.e. free, forced, transverse, axial torsional – Their sources and effects), Resonance and critical speed, Structure borne, and air borne vibration, Anti vibration mountings of machines. Detuners, Dampers with reference to Torsional vibrations dampers, use of torsionographs.	10
4.	<b>Fuels:</b>  Source of supply, Study of Primary Fuels, Coal, petroleum, natural gas, classification of fuels. Treatment of fuels for combustion in marine I.C.E. and steam plants.	05
5.	<b>Lubrication:</b>  Theories of Lubrication, Types of Lubricants and their Properties suitability of Lubricants for various uses; solid and fluid lubricants. Additive Oils and their specific use, Terminology used in Lubrication systems. Loading pattern of various bearings in marine use and Lubrication system adopted. Different types	06

	of bearings used for marine machineries.	
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### **Text Books:**

1. Marine auxillary machine 7 e Mc George Butterworth Heinemann New York Publishers

### **Reference book:**

1. Introduction to Marine Engg 2e D.A.Taylor Butterworth Heineman Pub.