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***B.Tech. Degree VI Semester Regular/Supplementary Examination in  
Marine Engineering June 2024***

**19-208-0605 MARINE INTERNAL COMBUSTION ENGINES - II  
(2019 Scheme)**

Time: 3 Hours

Maximum Marks: 60

**Course Outcome**

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

- CO1: To understand the main propulsion engine manoeuvring system, power measurement and lubrication system in detail.
- CO2: Gain knowledge regarding development of different types of engines and automation in marine diesel engines.
- CO3: Explain the maintenance of components of marine diesel engines.
- CO4: Understand about compressed air motors and centrifugal compressors.
- CO5: Gain knowledge on Gas turbine and plants.
- Bloom's Taxonomy Levels (BL): L1 – Remember, L2 – Understand, L3 – Apply, L4 – Analyze, L5 – Evaluate, L6 – Create
- PI – Programme Indicators

(Answer **ALL** questions)

(5 × 15 = 75)

		Marks	BL	CO	PI
I.	(a) Explain the Starting/reversing system with proper diagram for Sulzer engine.	10	L2	1	1.3.1
	(b) Explain three different starting interlocks in starting system of a main engine.	5	L1	1	1.4.1
<b>OR</b>					
II.	(a) Explain different methods of reversing in different marine engines.	8	L2	1	1.3.1
	(b) Explain different faults in indicator diagrams with sketch.	7	L2	1	1.4.1
III.	Explain the following:				
	(a) Consequence of over speed.	4	L1	2	1.3.1
	(b) Working principle of over speed trip.	11	L2	2	1.4.1
<b>OR</b>					
IV.	Explain working and principles of operation of a hydraulic governor with compensating mechanism.	15	L2	2	1.3.1
V.	Explain different types of crank shaft. Explain their advantages and disadvantages.	15	L1	3	1.4.1
<b>OR</b>					
VI.	Explain microbial degradation of Fuel and Lub oil with reasons, consequences and preventive measures.	15	L1	3	1.4.1
VII.	Explain different components of a centrifugal compressor with proper sketches.	15	L2	4	1.3.1
<b>OR</b>					
VIII.	Compare reciprocating and centrifugal compressors. What are the different losses in a centrifugal air compressor?	15	L2	4	1.4.1
IX.	Explain and classify different types of gas turbines with neat sketch.	15	L1	5	1.3.1
<b>OR</b>					
X.	Explain the difference between open and closed type gas turbine. Explain the advantages and disadvantages of each.	15	L2	5	1.3.1

Bloom's Taxonomy Levels: