BT MRE-VI(R/S)-06-23-2346 Reg. No. | | | | | | | | | |

C

B.Tech. Degree VI Semester Regular/Supplementary Examination in Marine Engineering June 2023

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 ten pneumatic valve symbols in a starting line diagram of Marine diesel engine.	10	L1	1	1.4.1
	(b)	Explain air starting automatic valve of sulzer engine.	5	L2	1	1.3.1
		OR				
II.		Explain manoeuvring diagram of MAN engine with neat sketch.	15	L2	1	1.3.1
III.		Explain the following:				
	(a)	Advantages and disadvantages of medium speed engines	8	L1	2	1.3.1
	(b)	Cylinder head accessories of a medium speed engine with neat sketch.	7	L1	2	1.4.1
		OR				
IV.		Explain Droop. Also explain a simple hydraulic governor with droop.	15	L2	2	1.3.1
V.		Explain different types of crank shaft. Also explain their advantages and disadvantages.	15	L1	3	1.4.1
		OR				
VI.		Explain holding down bolts, end chocks and tie rods with neat sketch.	15	L1	3	1.4.1

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			Marks	BL	CO	PI
VII.		Categorise and explain different types of air compressors with sketches.	15	L2	4	1.4.1
		OR				
VIII.		Explain the following:				
	(a)	Slip and slip factor	5	L2	4	1.3.1
	(b)	Draw inlet and exit velocity diagrams of a centrifugal compressor.	10	L2	4	1.3.1
IX.	(a)	Explain the effect of intercooling with T-S diagram.	8	L2	5	1.3.1
	(b)	Explain different stages of air filtration.	7	L1	5	1.3.1
		OR				
X.		Explain regenerator, intercooler and reheater with sketches.	15	L2	5	1.3.1

Blooms's Taxonomy Levels
L1 – 41.3%, L2 – 58.37%.

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