Student Exam No._____

GANPAT UNIVERSITY

B. Tech. Semester: V -Marine Engineering

Regular Examination November – December 2014

2MR507- Marine Heat Engines

Time: 3 Hours **Total Marks: 70**

Instructions: (1) Attempt all Questions.

(2) Assume suitable data if necessary.

(3) Figure to the right indicates full Marks.

(4) Start new Question on New Page.

Section - I

Que. – 1	(a)	Differentiate between Impulse and reaction turbine.	6
	(b)	Short note on velocity compounding of Impulse turbine.	6
		OR	
Que. – 1	(a)	Short note on Person's turbine.	6
	(b)	Short note on Impulse reaction turbine.	6
Que. – 2	(a)	Short note on a Carnot cycle.	6
	(b)	Explain Regenerative cycle with P-V diagram in a Vapour power	5
		OR	
Que. – 2	(a)	Define following terms: 1) Degree of reaction. 2) Stage efficiency	6
	(b)	Explain combine steam and gas plant.	5
Que. – 3	(a)	Short note on Binary Vapour cycle.	6
	(b)	Short note on Rankine cycle.	6

Section – II

Que. – 4		What is reheating in gas turbine cycle? drive the expression for the intermediate pressure for the cycle	12
		OR	
Que. – 4	(a)	What is Gas power plant? What are the parameters influences for site selection for the power plants?	6
	(b)	What are the Methods for Improvement of Thermal Efficiency of Open Cycle Gas Turbine Plant? Explain what the necessity for the same is.	6
Que. – 5	(a)	Draw Velocity diagrams for centrifugal compressor and derive the expression for the stagnation pressure ratio.	6
	(b)	Describe centrifugal compressor characteristics.	5
		OR	
Que. – 5	(a)	Explain surging and choking in centrifugal compressor.	6
	(b)	What do you understand by multistage compression? What are its' merits over single stage compression?	5
Que. – 6	(a)	Drive the expression of Pressure Ratio for Maximum Work for ideal	6
	(b)	Explain the stalling and its effect on the compressor performance.	6

END OF PAPER