

## GANPAT UNIVERSITY

**B. Tech. Semester: \_V\_ (Marine)Engineering**  
**Regular Examination November – December 2014**  
**2MR505 Marine Electro Technologies**

Time: 3 Hours

Total Marks: 70

**Instruction:** (1) Attempt all Questions.

(2) Assume suitable data if necessary.

(3) Start new Question on New Page.

**Section - I**

- Que. – 1** a) What are various factors for selection of correct generator with reference 6  
 b) What is paralleling of alternators? Explain various methods of alternators paralleling. 6

**OR**

- Que. – 1** a) Briefly describe the operation of an automatic voltage regulator? 6  
 b) Write down various controls of an A.V.R & there function. 6
- Que. – 2** a) What is purpose of emergency source of power onboard ship? 5  
 b) List down various type of starting methods of an emergency alternator. 6  
 Explain hydraulic System of starting with a drawing.

**OR**

- Que. – 2** Write down various rules & regulation of emergency source of power. 11
- Que. – 3** What are different types of battery used onboard? Explain construction of Lead-Acid Battery with a neat figure. 12

**Section – II**

- Que. – 4** a) Explain working principle of brushless alternator? 6  
 b) Briefly explain all parts of brushless alternator. 6

**OR**

- Que. – 4** a) What is shaft alternator? Briefly explain various types of shaft 6  
 b) What are advantages & disadvantages of shaft alternator? 6
- Que. – 5** a) What is Ingress Protection for electrical installation? Explain types of Ingress Protection with the help of table. 5  
 b) Explain working principle of Rudder angle indicator with the help of suitable drawing. 6

**OR**

- Que. – 5** a) Write down type of electrical equipment maintenance & explain each in brief. 5  
 b) What are the fundamental requirements of safe electrical installation? 6
- Que. – 6** a) Write down various design features of high voltage installations. 6  
 b) What precaution to be taken while working on high voltage system? 6