

**INDIAN MARITIME UNIVERSITY**  
**(A Central University, Government of India)**

**B.Tech. (Marine Engineering) - Semester – VI**  
**December 2015 End Semester Examinations**

**Marine Electrical Technology**  
**Subject Code: UG11T1603**

Time: 3 Hours  
Date: 15.12.2015

Max Marks: 100  
Pass Marks: 50

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**Part - A**  
**Compulsory Questions**

(10 x 3 = 30 Marks)

1. (a) State advantages of Brushless Excitation systems.
- (b) State the SOLAS Regulations as applied to Electrical Installations on board.
- (c) What are the precautions normally adopted while taking Shore supply?
- (d) State the different Electrical Diagrams used on board a ship.
- (e) What do you understand by the code 'IP' related to an Induction Motor?
- (f) Categorize Navigational lights on board?
- (g) Write 5 preventive steps taken before attending to Electrical fault finding & repairs.
- (h) Categorize Tankers depending on safe working zones.
- (i) How an Earth Fault is caused on board?
- (j) State the points to be observed before carrying out a safe watch-keeping.

**Part- B**  
***Answer any five from the following***

(5 x 14 = 70 Marks)

2. Draw a neat sketch showing an Automatic Voltage Regulator & explain its working on board a ship. (14)
3. (a) Differentiate an Essential service & a Non Essential service (**ES & NES**) with regard to a safe navigation. (7)
- (b) Discuss the maintenance checks on an Emergency Switch Board (**ESB**). (7)

4. What do you understand by '**Insulated Neutral and Earthed Neutral Systems**'?  
Which of the above system is preferred in Low Voltage ships? Explain with an example. (14)
5. a) Explain with a working example, what is Sequential Starting. (7)  
b) Explain the working of a Rudder Angle Indicator. (7)
6. Explain the importance of Preventive Maintenance carried out on-board.  
Describe the survey requirements of a Main Generator. (14)
7. (a) Detail the difference between **Exi & Exd** types of protection schemes used on-board Tanker vessels (7)  
(b) Write a short note on Diesel Electric Propulsion with a neat sketch. (7)
8. (a) Discuss the points to be checked on Electrical machineries during a safe Watch-keeping. (7)  
(b) Describe the types of Fire fighting Systems adopted when there is an occurrence of Fire due to Electrical origin. (7)

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