

***B. Tech Degree VI Semester Examination in
Marine Engineering, July 2006***

MRE 602 MARINE ELECTRICAL TECHNOLOGY

Time : 3 Hours

Maximum Marks : 100

- I. Explain different methods of alternator excitations -
- (i) Adopted on board ships. (10)
- (ii) Describe the construction of a brushless generator with the help of a sketch. (10)
- OR**
- II. (a) Explain the functions of an automatic voltage stabilizer. What are the possible reasons for an alternator not developing voltage. (10)
- (b) What is the purpose an emergency generator on board ship and explain its starting methods? (10)
- III. (a) Sketch a 440 volt MSB and briefly explain the important consoles. (14)
- (b) Enumerate the precautions adopted in High voltage distribution systems. (6)
- OR**
- IV. (a) Write a report to your Chief Engineer about the damages suffered by a squirrel cage induction motor in the ship and how it was salvaged. (15)
- (b) Enumerate the protective devices provided on induction motors. (5)
- V. Write short notes on *any four* :
- (i) E/R Telegraph (5)
- (ii) Rudder angle indicator (5)
- (iii) Ph valve indicator (5)
- (iv) Salinity indicator (5)
- (v) Watertight door operation. (5)
- OR**
- VI. Write short notes on *any four* :
- (i) Automatic voltage stabilizer (5)
- (ii) Navigation lights regulations and circuit (5)
- (iii) Ward – Leonard system (5)
- (iv) Emergency radio operation (5)
- (v) High and low level alarms. (5)
- VII. (a) Explain how an earth fault in a deck light fitting is detected and rectified. (10)
- (b) Enumerate the precautions to be taken before starting an electric system. (10)
- OR**
- VIII. Explain in detail on safe watch keeping on board with special reference to the check, monitoring and timely corrective action taker on electrical machinery and equipment. (20)
- IX. (a) What are the important rules and regulations regarding Electro Hydraulic steaming gear? (10)
- (b) Describe the Electrical installation used in a crude oil tanker pump room. (10)
- OR**
- X. (a) What is meant by “Ex” protection? Briefly explain. (10)
- (b) Describe the maintenance procedure for “Ex” protected apparatus. (10)
