

***B.Tech Degree V Semester Examination in
Marine Engineering, November 2009***

MRE 505 MARINE AUXILIARY MACHINERY – II

Time : 3 Hours

Maximum Marks : 100

- I. (a) Sketch and describe functioning of hunting gear arrangement of a steering gear unit. (12)
(b) What are the SOLAS requirements related to emergency steering? How is emergency steering made operational? (8)
- OR**
- II. (a) Sketch and describe an oil lubricated stern tube. (12)
(b) (i) What is the necessity of doing shaft alignment?
(ii) Enumerate reasons which can lead to misalignment shafting system in service. (8)
- III. Discuss in detail about the inspections and maintenance carried out in the engineering systems of a ship during its dry-docking period. (20)
- OR**
- IV. Write short notes on the following :-
(i) Aerobic type of sewage treatment plant
(ii) Maintenance of engine room stores.
(iii) Impressed Current System for hull protection (ICCP)
(iv) Precautions to be taken from overhauling of a sea water pump. (4 x 5 = 20)
- V. What are the measures adopted to minimize the effect of vibration due to a running machinery on a ship? Explain how each of them are effective. (20)
- OR**
- VI. (a) What are the noise sources on ships? What are the various noise suppression techniques used? (10 + 10 = 20)
(b) Discuss about the different modes of vibration in a ship.
- VII. Explain various methods by which the fuel oil is treated before use in marine diesel engines. Mention important physical properties of fuel at various stages. (20)
- OR**
- VIII. (a) Distinguish between the distillate fuel and residual fuels. (8)
(b) What is meant by emulsified fuel? (4)
(c) What are the advantages and disadvantages of using emulsified fuels in marine diesel engines? (8)
- IX. (a) What are the functions of lubricating oil? (6)
(b) Enlist various additives used in marine lubricating oils and their uses. (6)
(d) Explain how the lubricating oil analysis reports can be used to monitor the engine condition. (8)
- OR**
- X. Explain in detail about various inspections/checks that you will perform with regard to the oil in the lubricating oil sump tank of a two stroke diesel engine used for propulsion purpose. (20)
