

***B.Tech Degree VI Semester Examination in Marine Engineering
May 2012***

MRE 604 MARINE INTERNAL COMBUSTION ENGINES II

Time: 3 Hours

Maximum Marks: 100

- I. (a) Sketch and describe the lubrication arrangement in a 2 stroke diesel engine. (10)
(b) What are the reasons for the liner wear and how to restrict this? (10)
OR
- II. (a) Briefly explain how the lubricating oil analysis reports may be used for monitoring the engine condition. (10)
(b) Sketch an indicator instrument and explain its function. (10)
- III. (a) Write in detail about various method of NO_x emission control. (15)
(b) Sketch and explain the use of over speed governors. (5)
OR
- IV. Explain in detail the difficulties that may be encountered by usage of poor quality residual fuel. (20)
- V. What is meant by crankshaft deflection? Explain the procedure to record this. What are the reasons for variations in the deflection values? (20)
OR
- VI. Write short notes on:
(i) Tightening of tie bolts
(ii) Crankshaft web slip
(iii) TBO
(iv) Intelligent engines (20)
- VII. Write short notes on:
(i) Rotary positive displacement compressor (7)
(ii) Multi stage centrifugal compressor (7)
(iii) Use of compressed air motors (6)
OR
- VIII. Discuss the routine inspections carried out and replacement criteria for the following components of a large 2 stroke engine.
(i) Piston rings
(ii) Liner
(ii) Main bearings
(iv) Cylinder head (20)
- IX. Sketch and explain a free piston gasifier. Compare this with a conventional air stream combustion chamber. (20)
OR
- X. Explain with sketches the construction and working of a gas turbine plant. (20)