

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

MRE 604 MARINE INTERNAL COMBUSTION ENGINES II

Time : 3 Hours

Maximum Marks : 100

- I. Why cylinder lubrication is important in large two stroke diesel engines? Explain how the liner is lubricated and what are the qualities required for a good cylinder lubricating oil. (20)
- OR**
- II. Explain how the liner wear is measured and recorded during engine overhaul. What are the causes of increased liner wear and what are the dangers if the engine is operated with wear beyond the limit set by the engine manufacturer? (20)
- III. Describe the method of taking the indicator diagram of a two stroke diesel engine. With the help of an indicator diagram how the following defects can be identified in a two stroke marine diesel engine.
- | | | |
|---------------------------|---------------------|------|
| (i) Early injection | (ii) Late injection | |
| (iii) Leaky fuel injector | (iv) After burning | (20) |
- OR**
- IV. What are the different methods of starting a diesel engine? Sketch and describe a main engine starting and reversing system of a large two stroke diesel engine. What are the safety inter locks in the system? (20)
- V. What are the requirements of UMS operations of ships and explain with the help of sketches the following controls in automation?
- | | | |
|--------------------------|-----------------------|------|
| (i) Proportional control | (ii) Integral control | |
| (iii) Derivative control | | (20) |
- OR**
- VI. What are the causes of Crank Shaft misalignments? Describe the different methods of measuring Crank Shaft alignment and how the readings are recorded. (20)
- VII. Describe Free Piston Engine gasifier and conventional air stream combustion chamber. Compare these two systems. (20)
- OR**
- VIII. Sketch and describe the construction, design features and working of a gas turbine plant. (20)
- IX. Sketch and describe a bosch fuel pump with helical cut fuel control and explain how the fuel is varied according to the load on the engine. (20)
- OR**
- X. Write short notes on any four of the following properties of lubricating oils:-
- | | | |
|---------------------------|---------------------|------|
| (i) Viscosity Index | (ii) Pour Point | |
| (iii) Oxidation Stability | (iv) Foam Stability | |
| (v) Flash Point | (vi) Alkalinity | (20) |

