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***B.Tech. Degree VI Semester Examination in Marine Engineering
May 2018***

**MRE 1604 MARINE INTERNAL COMBUSTION ENGINES II
(2013 Scheme)**

Time: 3 Hours

Maximum Marks: 100

(5 × 20 = 100)

- I. Explain with sketch the construction details of an Indicator Instrument. (20)
- OR**
- II. Draw a Main Engine Lubrication system and explain each components. (20)
- III. (a) Explain briefly the precaution to be taken when using poor quality residual fuels and the consequences if precaution is not taken. (12)
- (b) What are the improvements made in Main Engine for increased TBO? (8)
- OR**
- IV. Explain basic working principles of Governors. Briefly explain Constant and Over speed Governors. (20)
- V. (a) How to take Crankshaft deflection of Main Engine and reason for taking the same? (10)
- (b) Explain procedure for tightening main Engine Tie Bolts. (10)
- OR**
- VI. Write short notes on: (20)
- (i) Camless Engine.
- (ii) Crankshaft web slip.
- (iii) Common Rail Fuel Injection.
- (iv) Lost motion when reversing.
- VII. Sketch and describe a multistage centrifugal compressor. (20)
- OR**
- VIII. Explain with the help of sketch, the working and the components of compressed air motors. (20)
- IX. (a) Describe Explosion cycle gas turbine plant. (10)
- (b) Explain the condition required for maximum work output and thermal efficiency in simple cycle. (10)
- OR**
- X. Explain construction and design features for marine gas turbine plants. (20)