

GANPAT UNIVERSITY
B. TECH SEM- IV Marine Engineering
REGULAR EXAMINATION- APRIL-JUNE 2016
2MR402 ENGINEERING MATERIALS

TIME: 3 HRS

TOTAL MARKS: 60

- Instructions:**(1) This Question paper has two sections. Attempt each section in separate answer book.
 (2) Figures on right indicate marks.
 (3) Be precise and to the point in answering the descriptive questions.

SECTION: I

- Q.1 (a) Explain fatigue Test of material. (05)
 (b) What are the different types of heat treatment process? Explain any one. (05)
- OR**
- Q.1 (a) Describe S- curve with suitable diagram. (05)
 (b) Explain different types of stainless steel. (05)
- Q.2 (a) Explain different types of stainless steel. (05)
 (b) Give the advantages and disadvantages and property alloy steel. (05)
- OR**
- Q.2 (a) What is the difference between Destructive Testing and non-Destructive Testing of material? Explain any one method of Destructive Testing of material. (05)
 (b) What is the purpose of heat treatment? (05)
- Q.3 What is the meaning of creep? Describe the creep Phenomena and explain the creep curve. (10)

SECTION: II

- Q.4 (a) Explain the different types of cast iron. (05)
 (b) Explain the any five types of non ferrous material property and application. (05)
- OR**
- Q.4 Explain briefly materials used for manufacturing of following marine diesel engines parts and reasons thereof : (10)
 i) Pistons iii) Piston rings
 ii) Liners iv) Crankshafts
- Q.5 Explain properties and uses of following materials: (attempt any two) (10)
 a) Titanium
 b) Chromium
 c) PTFE
 d) Ceramics
- OR**
- Q.5 Describe various paint systems used on ships. (10)
- Q.6 Explain Following: (10)
 (a) Impressed current cathodic system (10)
 (b) Sacrificial Anode System

-----END OF PAPER-----