

**DIPLOMA IN MECHANICAL ENGINEERING
(DME)/DMEVI**

Term-End Examination

00572

December, 2017

BME-050 : ENGINEERING MATERIALS

Time : 2 hours

Maximum Marks : 70

Note : Attempt any **five** questions. All questions carry equal marks.

1. (a) Draw a stress – strain diagram for mild steel and label it. 7
(b) Differentiate between modulus of resilience and modulus of toughness. 7
2. (a) Classify different types of steel on the basis of carbon percentage. 7
(b) Explain the classifications of Cast-Iron. Also give their uses. 7
3. (a) What is Stainless Steel ? Explain the types of stainless steel. 7
(b) What are the different heat treatments given to steel ? 7

4. (a) Differentiate between annealing and quenching. 7
- (b) Draw a Time-Temperature-Transformation curve (T-T-T). What is critical cooling rate? 7
5. (a) Classify reinforced plastics. Explain the main characteristics and its applications. 7
- (b) Write short notes on the following : 7
- (i) Abrasives
- (ii) Martensite
6. (a) Give the composition of brass and bronze. Also explain at least two uses each of brass and bronze. 7
- (b) What are the effects of chromium and molybdenum in low alloy steel? 7
7. (a) What are composite materials? Also classify composite materials. 7
- (b) What is external pressure lubrication? Explain in brief. 7
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