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BME-050

DIPLOMA IN MECHANICAL ENGINEERING

(DME/DMEVI)

Term-End Examination, 2019

BME-050 : ENGINEERING MATERIALS

Time : 2 Hours]

[Maximum Marks : 70

Note : Question number one is compulsory. Attempt any four questions out of the remaining question number two to six. Use of calculator is permitted.

1. Define any seven of the following : [7x2=14]
- (a) Fatigue strength and fatigue limit
 - (b) Content of Cast-Iron
 - (c) Classification of Lubricants
 - (d) Annealing and Quenching
 - (e) Corrosion Resistance
 - (f) Powder Metallurgy
 - (g) Alumina-silicate composite

- (h) Percentage elongation
 - (i) Hardenability
2. (a) What is Creep ? Discuss the various stages of creep. Explain creep mechanism of metal. [7]
- (b) How is hardness measured ? Differentiate between Rock well hardness and Brinell hardness. [7]
3. (a) What are different heat treatment processes used for steel processing ? [7]
- (b) What are the type of alloys ? Explain with the suitable range of alloying elements. [7]
4. (a) How is residual stress induced in a solid ? [7]
- (b) Discuss properties of refractory materials. [7]
5. (a) Differentiate between hot pressing and pyrolysis. [7]
- (b) What is plasticiser ? Discuss with examples. Which property of polymer is improved by addition of plasticiser ? [7]

6. (a) What is the difference between viscosity and Viscosity Index. [7]
- (b) Define the term coating. What are the purposes of coatings? [7]

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