

Total Pages-3 III-Sem/MECH/AUTO/2017 (S)(New)

ENGINEERING MATERIAL

(Code : MET-302)

Full Marks : 70

Time : 3 hours

Answer any five questions

Figures in the right-hand margin indicate marks

- 1. (a) Write four example of ferrous material. 2
- (b) Explain physical properties of ferrous material. 3
- (c) Explain the composition of low carbon steel and write its application. 7
- 2. (a) What is the difference between Steel and Iron. 2
- (b) Explain the concept of phase diagram cooling curve. 5
- (c) With a neat sketch explain the iron-carbon equilibrium diagram with salient micro-constituents of iron and steel. 7

- 3. (a) What is crystal imperfections? 2
- (b) Explain point defects and line defects in crystal. 5
- (c) Explain various causes of line defects also write their classification. 7
- 4. (a) What is heat treatment process? 2
- (b) Explain normalizing and hardening process of heat treatment. 5
- (c) Explain the effect of heat treatment in properties of steel. 7
- 5. (a) What is the composition of Duralium? 2
- (b) Describe the composition and properties of copper alloy. https://www.sctevtonline.com 5
- (c) Describe the composition and properties of aluminium alloys, write its application. 7
- 6. (a) What is the use of Babbit material? 2
- (b) Explain the composition and use of super-duplex material. 5

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- (c) Explain the composition and properties of Tim base Bearing material. Write its application also. 7
7. (a) Write materials used for spring. 2
- (b) Explain composition and application of Iron base spring material. 5
- (c) Explain various types of ceramic material and write their application. 7

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