

Roll No. 

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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (AE) (2011 Onwards) (Sem.-3)

**AUTOMOTIVE MATERIALS**

Subject Code : BTAE-305

Paper ID : [A1155]

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTIONS TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

**SECTION-A****1. Write briefly :**

- a) How do you classify engineering materials?
- b) What is meant by physical properties of material?
- c) Name some alloys of nickel.
- d) What are ceramic materials?
- e) What are the types of elastomers?
- f) Why composites are needed?
- g) What are carbon composites?
- h) What is tempering?
- i) What is Electroplating?
- j) What do you understand by hard facing?

**SECTION-B**

2. Discuss the nature and types of ceramic materials.
3. Differentiate between thermoplastic and thermosetting plastic materials.
4. Discuss the advantages of monolithic ceramics.
5. Discuss the factors effecting the selection of materials.
6. Write a note on annealing.

**SECTION-C**

7. Define recrystallization temperature. Discuss their effect on the properties of materials.
8. What are different types of fibers? Discuss the properties and applications of fiber reinforced plastics.
9. Explain any surface hardening technique.