

Roll No. 

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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(AE) (2018 Batch) (Sem.-3)

**AUTOMOTIVE MATERIALS**

Subject Code : BTAE305-18

M.Code : 76403

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. Answer briefly :**

- a) What is effect of recrystallization on properties of material?
- b) Name different products of ceramic materials.
- c) What are applications of rubber in automotive?
- d) Illustrate hot dipping.
- e) Briefly discuss about FRP.
- f) What is need of CMC?
- g) What is difference between thermoplastics and thermosetting plastics?
- h) List the various heat treatments.
- i) Define Phosphating.
- j) Name the material of body panel and crank case.

### SECTION-B

2. Briefly write about electroplating surface hardening techniques.
3. What are different types of Al alloys? Illustrate their properties.
4. Explain the process of normalizing.
5. Discuss about Aluminum oxide and Silicon nitride.
6. Explain the structure of glass. What is its composition?

### SECTION-C

7. What are different types of properties of material? Explain each.
8. Describe following :
  - a) Material for heavy duty vehicles and
  - b) Hard facing and thin film coating.
9. Classify composites and explain each.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**