

Roll No. 

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Total No. of Pages : 02

Total No. of Questions : 09

**B.Tech.(Aeronautical Engg.) (Sem.-4)**  
**AIRCRAFT MATERIALS AND PROCESSES**

Subject Code : ANE-207

M.Code : 60515

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****Q1. Define and explain the significance of the following terms :**

- a) Strength/weight ratio
- b) Heat treatment
- c) Alloying elements
- d) Super alloys
- e) Weldability
- f) Matrix material
- g) Composites
- h) Ceramic materials
- i) Curing
- j) Aramid fibers

**SECTION-B**

- Q2. Explain the desirable properties of flight vehicle materials.
- Q3. Explain the techniques used for the inspection of composite materials.
- Q4. Explain various types of composite materials. Explain properties of carbon fiber.
- Q5. Explain various types of riveted joints using sketches.
- Q6. Explain the properties of K-Monol.

**SECTION-C**

- Q7. Write notes on the following : (2 × 5)
- a) Factors affecting choice of material for different parts of an airplane
  - b) Magnesium alloys and their applications to aerospace vehicles.
- Q8. Classify heat resistant materials. Explain properties & applications of any one category. (1, 6, 3)
- Q9 Explain the following welding techniques : (2 × 5)
- a) Gas welding
  - b) Resistance welding

**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.**