

**Roll No.**

**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-Monal.

## 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.**