

Roll No.

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(Aerospace Engg.) (2012 Onwards) (Sem.-5)

AEROSPACE MATERIALS

Subject Code : ASPE-302

M.Code : 71836

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION 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. Answer briefly :**

- a) Use of composites in sport equipment.
- b) Define blow molding.
- c) Use of composites in automobiles.
- d) Define malleability.
- e) Define annealing.
- f) Define tempering.
- g) What are allotropic materials?
- h) Define austempering.
- i) Define intergranular corrosion.
- j) Define Pure Clad.

SECTION-B

- Q2. Write the factors affecting the choice of materials for the following aircraft parts :
- a) Wings
 - b) Landing gears.
- Q3. Discuss heat treatable aluminum alloys in details.
- Q4. How pure magnesium is produced? Write its physical properties.
- Q5. Write various welding considerations. Explain the method of welding light alloys.
- Q6. Write effect of following materials on the properties of steel and its alloys :
- a) Manganese
 - b) Nickel.

SECTION-C

- Q7. Classify composite materials. Discuss laminate composites.
- Q8. Explain the manufacturing process of titanium with the help of a flow chart. Explain machining process for this material.
- Q9. Explain the heat treatment process for steels with the help of iron-carbon diagram.

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.