Roll No. | | | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(ANE) (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. Answer briefly :

a) Define Fusibility.

b) Define Annealing

c) What is the percentage of carbon in medium carbon steel?

d) Define 'hot short' with reference to steel.

e) Define Austenite.

f) Define Shop Annealing.

g) Define Austempering.

h) Define matrix with reference to composite materials.

i) What are nimonic alloys?

j) Define Sizing.

SECTION–B

Q2. Discuss the importance of temperature variations, in flight vehicle materials. Discuss the properties of materials used in turbine blades.

Q3. Write the effect of following alloying elements on the property of steel :

a) carbon

b) chromium

Q4. Discuss the following steels :

a) SAE = 1025

b) SAE = 4140

Q5. Classify Wrought aluminium alloys. Discuss any one in details.

Q6. Discuss refractory materials and ceremics.

SECTION–C

Q7. Write any two shop fabrication processes in details with reference to magnesium alloys. How magnesium is manufactured?

Q8. Write the theory of heat treatment for steels with the help of iron-carbon diagram.

Q9. Discuss particulate composites in detail.

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.