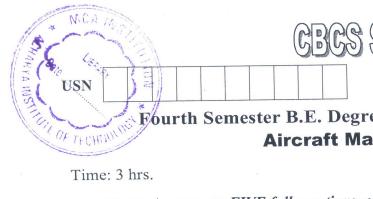
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GBCS SCHEME

18AE45

Fourth Semester B.E. Degree Examination, Jan./Feb. 2023 **Aircraft Material Science**

Max. Marks: 100 Time: 3 hrs.

Note: Answer any FIVE full questions, choosing ONE full question from each module.			
Module-1			
1	a.	List and explain desired characteristics of an Aircraft materials.	(10 Marks)
	b.	Discuss various NDT methods used in the material testing.	(10 Marks)
	U.		
OR OLI 1 (10 Mala)			
2	a.	Discuss the types of Aluminum Alloys with applications in the Aircraft Industry.	(10 Marks)
	b.	Explain the Production and Manufacturing methods for corrosion resistant and	Managing
		steels.	(10 Marks)
		Module-2	
			(04 Marks)
3	a.	What are Super Alloys? Classify the Super alloys. Discuss the production methods and applications of Nickel based super alloys in	
	b.		(08 Marks)
		Industry.	(08 Marks)
	C.	Explain Iron base Super alloys and its heat treatment processes.	
		OR	
4	a.	Define and classify composites.	(05 Marks)
4	b.	Explain the following fabrication methods: i) Hand layup ii) Pultrusion.	(10 Marks)
	c.	Discuss Metal Matrix and Ceramics Matrix composite.	(05 Marks)
	C .		
		Module-3	(10 Marks)
5	a.	Discuss the desirable properties of polymers in the Aerospace application.	(10 Marks)
	b.	Discuss various Shaping and Production methods of polymers.	(10 Marks)
		OR	
_		Write a note on glass and its shaping methods with neat sketch.	(10 Marks)
6	a.	Explain Sealants and Adhesives. List them with applications.	(10 Marks)
	b.	Explain Sealants and Adhesives. Dist them with appropriate	
Module-4			
7	a. What is Ablation? Discuss the Ablative materials used in the Aerospace Industry. (10 Mark		
	b.	Explain various Aircraft wood and its seasoning with respect to Aircraft constructions.	(10 Marks)
(10 Marks)			
		OR	
0		Explain various types of rubber used in the Aircraft Industry.	(10 Marks)
8	a.	- 1: 1: 10 intime measure and types of paints liked	(10 Marks)
	b.		
		Module-5	(10 Mawks)
9	a.	Define Corrosion and discuss types of corrosion.	(10 Marks)
	b.	Time to the array of the array	(10 Marks)
OR			
			(10 Marks)
10		the state of the s	(10 Marks)
	b.	Explain the methods of mechanical characterisation of some part	