

CBCS SCHEME

15AE45

(08 Marks)

(08 Marks)

Fourth Semester B.E. Degree Examination, Aug./Sept.2020 **Aircraft Material Science**

	Tir	ne: 3	3 hrs. Max. M	arks: 80	
		Note: Answer any FIVE full questions, choosing ONE full question from each module.			
oi			Module-1		
ıctica	1	a.	Explain the requirements of Aircraft Materials.	(08 Marks)	
alpra		b.	Explain about the Inspection methods of Aircraft Materials.	(08 Marks)	
On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Any revealing of identification, appeal to evaluator and /or equations written eg, $42+8=50$, will be treated as malpractice.					
ted 2	2	a.	OR Discuss the importance and applications of magnesium alloys in aircraft structures	2	
trea	_	α.	Discuss the importance and applications of magnesium anoys in ancian structures	(08 Marks)	
ages II be		b.	Explain the classification of Corrosion-Resistant alloys.	(08 Marks)	
eting your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Ing of identification, appeal to evaluator and /or equations written eg, $42+8=50$, will be					
5 bla = 5(3		Module-2 Define Symon Allow Discover heights with a board gymon allow and its applications	(10.3/1)	
ining 2+8	3	a. b.	Define Super Alloy. Discuss briefly nickel based super alloy and its applications. Explain the heat treatment process of super alloys.	(10 Marks) (06 Marks)	
emai 8, 4		υ.	Explain the heat treatment process of super alloys.	(00 Marks)	
he r			OR		
on t writi	4	a.	Explain the need for composite materials in aircraft applications.	(08 Marks)	
ines		b.	Explain metal matrix composites based on aluminium and magnesium based com-		
oss l quati			engines.	(08 Marks)	
al cr or ec			Module-3		
nogı nogı	5	a.	Explain the properties of ceramics with examples of ceramic materials.	(08 Marks)	
v dia tor a		b.	Explain the classification of plastics based in their reaction to heat and based		
drav alua			commercial use.	(08 Marks)	
orily to ev			on.		
oulsc eal t	6	0	OR Discuss about the laminated plate glass and laminated sheet glass.	(00 Mayles)	
app	U	a. b.	Explain the properties and applications of glass and transparent plastics.	(08 Marks) (08 Marks)	
ers, c		٥.	Explain the properties and approaches of glass and transparent plastics.	(00 Marks)	
nsweifica			Module-4		
ur aı dent	7	a.	Explain the applications of ablative materials in aerospace industry.	(08 Marks)	
g yo		b.	Define Ablation Process. Explain ablative materials composition.	(08 Marks)	
letin			OR		
On compl Any revea	8	a.	Explain the types of aircrafts woods and their uses.	(08 Marks)	
On c		b.	Discuss about the Aircraft Painting process.	(08 Marks)	
ote :			Module-5		
Ž	9	a.	Explain the various methods used for corrosion protection.	(08 Marks)	
Important Note : 1.		b.	Explain the methods employed to prevent corrosion.	(08 Marks)	
Imp			OR		

b. Define Propellant. Explain the desirable properties of the propellants.

10 a. Explain about the materials which are used for rockets and missiles.