## CBCS Scheme

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## Fourth Semester B.E. Degree Examination, June/July 2017 **Aircraft Material Science**

Time: 3 hrs Max. Marks: 80

	Tin	ne: í	3 hrs. Max. M	arks: 80										
			Note: Answer FIVE full questions, choosing one full question from each modul	le.										
ice.			Module-1											
; blank pages. = 50, will be treated as malpractice.	1	a.	Define the following: i) Normalizing ii) Quenching iii) Carburizing											
malj			iv) Case hardening.	(04 Marks)										
das		b.	Describe how yield point of a material can be determined.	(06 Marks)										
eatec		C.	Explain the methods that are commonly used to detect minute surface.	(06 Marks)										
es. Se tr			OR											
pag vill l	2	a.	Describe IADS with example.	(08 Marks)										
lank 50, v		b.	Illustrate a 3 – D phase diagram for classification of Ti – alloys.	(08 Marks)										
d gn			Module-2											
ainii 42+	3	a.	Describe the following: i) Fibre reinforced composites ii) Laminar composites	sites										
eg,			iii) Particulate composites.	(06 Marks)										
the		b.	Why we use PM processing techniques to produce super alloy components?	(04 Marks)										
s on wri		c.	Explain CMM.	(06 Marks)										
line			OR											
qual	4	a.	Why Metal – Matrix composites?	(07 Marks)										
nal c		b.	Describe 3 types of matrixes produce 3 common types of composites.	(09 Marks)										
and			Module-3											
w di ator	5	a.	Briefly explain the characteristics and typical application of plastic materials.	(12 Marks)										
dra valu		b.	Define Adhesive and Sealant.	(04 Marks)										
orily to e			OR											
puls peal	6	a.	Explain different types of non – scatterable glass.	(08 Marks)										
com,	U	b.	Discuss the following: i) Pyralin ii) Plastecele iii) Vinylite iv) Plexiglas											
ers, ation				(08 Marks)										
nsw tifica			Module-4											
den den	7	a.	Explain the working of Ablator with neat diagram.	(10 Marks)										
of go		b.	Why do we need high fidelity models?	(06 Marks)										
oletin aling			OR											
omp	8	a.	List various types of Aircraft wood and describe their properties and applications.	(08 Marks)										
On c	U	b.	Explain the purpose of Doping and commonly used Dopes.	(08 Marks)										
2.7														
ote:	0	0	Module-5  Explain the energtion of gladizing process	(00 Marks)										
Ž	9	a. b.	Explain the operation of alodizing process.  Describe the following: i) Chrome – Pickle treatment ii) Sealed chrome –	(08 Marks)										
ortar		υ.	treatment.	(08 Marks)										
Important Note: 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be				New Str. or annual Company of										
	10	1000	OR	(10 M 1-)										
	10	a.	List the materials used for rockets and missiles. Explain the desirable properties. Describe the following: i) Strip – biaxial ii) Tubular test.	(10 Marks) (06 Marks)										
		b.	Describe the following. I) strip - blaxial II) I ubular test.	(00 Marks)										