

**Model Question Paper-1 with effect from 2022-23 (CBCS 2022 Scheme)**

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**Third Semester Aeronautical Engineering B.E. Degree Examination**

**[Aircraft Materials & Processes]**

**TIME: 03 Hours**

**Max. Marks: 100**

Note: 01. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

Question No.	Description	Bloom's Taxonomy Level	CO	Marks
<b>Module 1</b>				
01 (a)	Explain the Physical properties of materials with the representation of stress-strain curve.	L2	CO 1	10
(b)	Write the classification of materials	L1	CO 1	4
(c)	Explain about the yield-strength determination	L2	CO 1	6
<b>(OR)</b>				
02 (a)	Name the different types of inspection method? Explain them briefly.	L2	CO 1	8
(b)	Explain about the types of hardness testing of Aircraft materials.	L1	CO 1	10
(c)	Define tension test	L1	CO 1	2
<b>Module 2</b>				
03 (a)	Explain about the sand casting with neat sketch	L2	CO 2	12
(b)	Explain about magnesium alloys and write the difference between cast alloy and wrought alloy.	L2	CO 2	8
<b>(OR)</b>				
04 (a)	Describe about the manufacturing process of titanium alloy with flow chart and write its advantages	L2	CO 2	12
(b)	Explain about the application of wood in aircrafts. Mention its advantages.	L3	CO 1	8
<b>Module 3</b>				
05 (a)	Explain about the Maraging steels and its applications.	L2	CO 2	4
(b)	Explain about the Super alloys and its uses.	L2	CO 2	16
<b>(OR)</b>				
06 (a)	Explain the differences between ferrous and non-ferrous materials. Give some examples for them.	L2	CO 2	10
(b)	Explain about the classification of steels.	L1	CO 2	10
<b>Module 4</b>				
07 (a)	Define the classifications of composite materials	L1	CO 2	10
(b)	Explain about the applications of composite materials across various industries.	L2	CO 2	10

<b>(OR)</b>					
08	(a)	Classify the detailed descriptions of glass ceramics and cermet's.	L2	CO 2	10
	(b)	Explain about the Fabrication process composite materials.	L2	CO 2	10
<b>Module 5</b>					
09	(a)	Explain corrosion with its technique's for detection and prevention.	L2	CO 3	10
	(b)	Discuss the difference between destructive and non-destructive testing? Give one example each	L3	CO 3	10
<b>(OR)</b>					
10	(a)	Explain the following. <ul style="list-style-type: none"><li>❖ X-ray test</li><li>❖ Eddy current method</li><li>❖ Acoustic emission method</li><li>❖ Dye-penetrant test</li></ul>	L2	CO 3	20