Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

Subject Code: 2130106

BE - SEMESTER- III (NEW) • EXAMINATION - SUMMER 2015

Date:29/05/2015

Su	bject	Name: Aircraft Science and Manufacturing Processes		
Time: 02.30pm-05.00pm Total Mar			ks: 70	
Inst	2.	ons: Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.		
Q.1	(a)	Explain sheet metal fuselage construction with neat sketch of a pressurized aircraft.	07	
	(b)	What are main structural components of wings of a conventional jet transport aircrafts?	07	
Q.2	(a) (b)	Classify rivet geometry with neat sketch. Explain function of all primary control surfaces. OR	07 07	
	(b)	With neat sketch explain zigzag rivet geometry.	07	
Q.3	(a) (b)	Explain different sheet metal joints. Draw and explain geometry of welded steel tube fuselage structure. OR	07 07	
Q.3	(a) (b)	Classify wooden ribs of main wing structure. How will you prepare surface of an airframe for painting.	07 07	
Q.4	(a) (b)	Define and explain Centre of gravity and Centre of pressure. Draw an isometric view of a conventional aircraft and mention applications of major components.	07 07	
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Q.4	(a)	Explain beading machine and their dyes for sheet metal work for airframe components.	07	
	(b)	Sketch and explain hand tools for sheet metal works.	07	
Q.5	(a) (b)	Mention procedure to fabricate sheet metal rib of a light aircraft. With neat sketch explain wooden airframe of a sailplane fuselage. OR	07 07	
Q.5	(a) (b)	Explain three axis and four forces of an aircraft. With neat sketch explain how lift is generated over aircraft wing.	07 07	
