

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V EXAMINATION – SUMMER 2025

Subject Code:3150109

Date:13-05-2025

Subject Name:Manufacturing Processes And Production Techniques

Time:02:30 PM TO 05:00 PM

Total Marks:70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) List out different types of adhesive bonded joints.	03
	(b) What is riveting?	04
	(c) Explain Rivet terminology in detail.	07
Q.2	(a) Classify glues. Explain their applications.	03
	(b) Explain Chemical Milling Process.	04
	(c) Explain different construction techniques of fabrication of fuselage.	07
	OR	
	(c) Explain the geometry of welded steel tube fuselage structure with neat sketch in detail.	07
Q.3	(a) Define aircraft centre of gravity.	03
	(b) What are the components of wooden wing ribs? Explain each in brief	04
	(c) Briefly explain sheet metal beading process of weight reduction holes.	07
	OR	
Q.3	(a) Why planking is required on the leading edge of wooden wing?	03
	(b) What is the difference between cylindrical rolling and taper rolling?	04
	(c) Explain Heat Treatment of steel sheet metal components.	07
Q.4	(a) Explain brazing process.	03
	(b) What is Taper Turning? Explain any one with Neat Sketch.	04
	(c) What are the precautions need to take by manufacturer before and after the construction of wooden glider airframe?	07
	OR	
Q.4	(a) Briefly explain the Aircraft tubing repair.	03
	(b) What is template? Explain with respect to aircraft painting and marking.	04
	(c) What type of wooden material is used to manufacture airframes?	07
Q.5	(a) What is gusset? How is it useful to give strength to airframes?	03
	(b) Shortly explain sheet metal bending tools for aircraft construction.	04
	(c) How will you cover and reinforce a wooden wing with fabric covering?	07
	OR	
Q.5	(a) Differentiate between turning and taper turning process.	03
	(b) Explain nomenclature of a rivet gun.	04

(c) Explain any two type of sheet metal punching techniques.

07
