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Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII • EXAMINATION - WINTER • 2014

Subj	Subject Code: 180102 Date: 29-11-201		
Subj	ect I	Name: Helicopter Engineering	
_	e: 02	2:30 pm - 05:00 pm Total Marks: 70	
	1. 2.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a)	State the technical differences between a helicopter and an airplane. Sketch necessary drawings.	07
	(b)		07
Q.2	(a)	State the technical differences between a helicopter and an airplane. Sketch necessary drawings.	07
	(b)		07
	(b)	Write a short note on: 1. Downwash and Induced angle of attack 2. Advance ratio and induced velocity	07
Q.3	(a) (b)	Derive the equations using blade element theory for helicopter in forward flight.	07 07
Q.3	(a) (b)	•	07 07
Q.4	(a)	State the assumptions made for the momentum theory. Explain rate of change of momentum.	07
	(b)	Write a note on the flow conditions around the rotor in axial flight OR	07
Q.4	(a) (b)	•	07 07
Q.5	(a) (b)		07 07
Q.5	(a) (b)	Explain the reason of providing twist and taper in a blade.	07 07
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