For Notes, Syllabus, Question Papers: www.AllAbtEngg.com

	Reg. No.:	40634
ods He Anton Bus	Index bulk harappe of bullion	12. a) Skerab the travers
Q	uestion Paper Code:	40534
	Cech. DEGREE EXAMINATION, A Eighth Semester Aeronautical Engineering AE 6801 – WIND TUNNEL TECH (Regulations 2013)	v different from superv
Time: Three Hours		Maximum : 100 Marks
	Answer ALL questions	Marks
	PART - A	(10×2=20 Marks)
State Buckingha		Summarine to the BEW. (a. A.E.
	number and state its significance.	in an in the second of the second
	classifications of wind tunnels.	80)
	s which influence the design of super	
	kage is more than the allowable limit,	, what would be its effect?
	number and state its importance.	
What is the pri disadvantages of	imary objective of tuft flow visualize f his method?	zation? And what is the
8. What is the prin	nciple behind optical flow visualization	n techniques ?
9. Name the instru	iments for unsteady pressure measur	rements.
10. What are the con	nstraints for the model design?	
	PART – B	(5×16=80 Marks)
air proper dynamical	a scale model automobile is tested in a ties as the prototype. The prototype ly similar conditions the model drag is otype automobile and the power in kW	e velocity is 50 km/hr for s 350N. What are the drag
	e various types of similarities that sh l prototype.	nould be satisfied between a (6)
	(ÖR)	
through a vivelocity, V, a	the drag D acting on a spherical obscous fluid is a function of the object and the fluid viscosity μ . Determine we the drag depends on the object velocity	ct diameter, d, the object ith the aid of dimensional
		7 10 1
	The second second	

For Notes, Syllabus, Question Papers: www.AllAbtEngg.com

40534	
12. a)	Sketch the typical layout of a supersonic wind tunnel and mark all the components and subsystems. What is meant by starting problem in supersonic wind tunnels?
	(OR)
	With the aid of a neat sketch explain the hypersonic tunnel circuit. How is it different from supersonic tunnel?
13. a)	i) How do you measure the flow turbulence in wind tunnel? Explain. (8)
O Mar)	ii) What is meant by flow angularity? How do you measure the same in wind tunnel? (8)
	(OR)
b)	Explain the calibration procedures for supersonic wind tunnels in brief.
14. a)	With aid of schematic diagram explain the construction of compound balance. Name and sketch at least three types of flexures and three types of force element fastenings techniques.
	(OR)
	Explain the basic principle of Laser Doppler anemometry. Show that the Doppler shift in frequency is directly proportional to the component of velocity in a direction of the reference vector. How are the separation studies carried out using wind tunnels? Explain in detail with suitable sketches.
	(OR)
, b)	With aid of suitable sketches explain the operation of pressure transducers.
0)	with aid of suitable sacroites explain the operation of pressure transducers.
	08=81×9)
	is not at term, I have it at Petert at elected and the beam since difference. A 41-60, 411 seriors did servicioleve opportunes of 1 oppionisse sur an expression, the seriors was their object opports taken and services realisms will managed amortisms of 1 oppions M.I de tree of placets at the most of the opportunities.
ALL DESIGNATION OF THE PERSON	Suffering the Perindan within the effect of the property of Connection of
	the Discuss the symmetries of an absence that an old be entished between the discislent prototype.
a visum	(OR). D) Assume the property continuous application decides that falls, view all
	reference a record flows on a terror on all the object distinction, d. the object viscount of the object of the order.
	analysis, how the drag depends or any object velicity