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Time	e : Thr	B.E./B.Tech. I	DEGREE EX Four Aeronaut AIRCRAFT S	er Code : 5	.PRIL/MAY 2019.
Time	: Thi	B.E./B.Tech. I	DEGREE EX Four Aeronaut AIRCRAFT S	AMINATIONS, A rth Semester tical Engineering SYSTEMS AND II	.PRIL/MAY 2019.
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Time	e: Thi		Aeronaut	tical Engineering	
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Time	e : Thi				NSTRUMENTS
Time	e : Thi	ree hours	(Reg	ilation 2012)	
Time	e : Thi	ree hours	*	aradion 2010)	
					Maximum : 100 marks
			Answer	ALL questions.	
			PART A —	$(10 \times 2 = 20 \text{ mark})$	(8)
1.	Wha	at is the need of		in Hydraulic syst	
2,				system' and 'Pne	
3.				ntrol technology'?	
4.	Writ	te short notes ab	out 'fly by w	ire systems'.	
5. 6.	V A	at are the types out the requirer	1 0 1	NO TEN	.com
7.	Give	the functions o	f 'wind shield	l wiper'.	
8.			pressurizing	g the aircraft cabi	n?
9.		ne : TAS.			
10.	Disti	inguish between	i Engine inst	ruments' and 'Na	avigation instruments'.
			PART B —	$(5 \times 13 = 65 \text{ mark})$	(s)
11.	(a)	With the help in airplanes.	of diagrams,	explain the Instr	rument Landing system used (13)
				Or	
	(b)	Explain with driven Pump'.	a neat sket	ch, the basic hy	rdraulic system with Power (13)
					1

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12. (a) Explain the principle and operation of 'autopilot aystem' with a neat sketch. Or (b) What are the functions of 'push pull rod' and; 'flexible push pull rod' system? (13) 13. (a) Describe the 'typical fuel system' used in the jet engine airplanes with a neat diagram. Or (b) Explain the working principle of a gas turbine engine 'Air starting system' with a neat sketch. (13) 14. (a) Describe in detail the working principles of 'De-icing system 'and 'Anti-icing system used in an airplane. Or (b) With the help of diagrams, explain the working of 'electrical fire detection' and 'electrical smoke detection' systems used in airplanes. Or (a) Explain the various basic types of 'Gyroscopic instruments' used in airplanes. Or (b) Explain the following systems used in aircrafts: (i) Mechanical Tachometer (ii) Air Speed Indicator. PART C — (1 × 15 = 16 marks) 16. (a) Design a suitable Lubrication system used in Small Piston Engine aircraft with neat sketch. Or (b) For a Small Business Jet aircraft, select the appropriate Flight control system and also justify your selection. (15)	sketch. Or (b) What are the functions of 'push pull rod' and; 'flexible push pull rod' system? (13) 13. (a) Describe the 'typical fuel system' used in the jet engine airplanes with a neat diagram. Or (b) Explain the working principle of a gas turbine engine 'Air starting system' with a neat sketch. (13) 14. (a) Describe in detail the working principles of 'De-icing system' and 'Anti-icing system used in an airplane. (13) Or (b) With the help of diagrams, explain the working of 'electrical fire detection' and 'electrical smoke detection' systems used in airplanes. (13) 15. (a) Explain the various basic types of 'Gyroscopic instruments' used in airplanes. (13) Or (b) Explain the following systems used in aircrafts: (i) Mechanical Tachometer (7) (ii) Air Speed Indicator. (6) PART C - (1 × 15 = 15 marks) 16. (a) Design a suitable Lubrication system used in Small Piston Engine aircraft with neat sketch. (15) Or (b) For a Small Business Jet aircraft, select the appropriate Flight control system and also justify your selection. (15)				
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