USN

Fifth Semester B.E. Degree Examination, Dec.2023/Jan.2024 **Aircraft Systems and Instrumentation**

Max. Marks: 100 Time: 3 hrs.

Note: Answer any FIVE full questions, choosing ONE full question from each module.

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				Module-1	
	1	a	ń	With a neat sketch explain about conventional system.	(10 Marks)
	1	b		Describe about the primary and secondary flight controls with relevant diagram.	(10 Marks)
	ř.			OR	
				Describe about the three axis autopilot system with a neat diagram.	(10 Marks)
	2		•	Explain briefly about the power assisted and fully powered system.	(10 Marks)
18		b	•		The service and the course of
				Module-2	m
	3	a		Elucidate the operation and working principle of different types of hydraulic systematics.	(10 Marks)
		1.		Discuss about the various components of hydraulic system with relevant diagram.	
	8	b).		
		in it		OR	etch
S	4	a	ι.	What is landing gear? Explain the different types of landing gear with relevant sk	(10 Marks)
		ŀ).	Write short notes on hydraulic fluid.	(05 Marks)
).).	With a neat sketch explain typical high pressure pneumatic system.	(05 Marks)
	,			What is the purpose of an aircraft fuel system? With neat sketch explain general	ralized fuel
	5	8	1.	What is the purpose of an aircraft tuel system? With heat sketch captum generally a flar as transport aircraft	(10 Marks)
		1	_	system of large transport aircraft. Explain the lubricating system components and on gas turbines.	(10 Marks)
		. [).	Explain the labricating system components and on gas	
				OR	(10 Marks)
	6		a.	With a typical example. Explain fuel system for Jet engines.	(10 Marks)
		1	b.	What are some of the factors that influence the choice of the starting system?	AY
				Module-4	
	7		a.	With a neat diagram, explain generalized basic air cycle system and vapour cycle	(14 Marks)
				ANTI ICING system	(06 Marks)
5.			b.	Write short notes on ANTI – ICING system.	
			Ġ	OR	TO A CANADA
	8	3		Write short notes on	A A A A A A A A A A A A A A A A A A A
			a.	Thermocouple system	
			b.	Kidde system	
			C.	Fenwal system	(20 Marks)
			d.	Lindberg system.	
i.				Module-5 Module-5 ASI VSI Altimeter ad	Machmeter.
		9		With relevant diagram, explain the working principle of ASI, VSI, Altimeter ad	(10 Marks)

OR

Discuss and describe about the aircraft instrumentation grouping. (10 Marks) 10 a.

What is tachometer? With a neat sketch explain mechanical tachometer. b.

Important Note: 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.

2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.