TED (21) – 6081C
(REVISION – 2021)

2102240104

Reg.No……
Signature…….

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE, NOVEMBER - 2024

AIRCRAFT INSTRUMENTS

[Maximum Marks:75] [Time: 3 Hours]

PART - A

I. Answer all the following questions in one word or one sentence. Each question carries 'one' marks.

(9 x 1 = 9 Marks)

		Module Outcome	Cognitive level
1	Define Flight instruments.	M1.01	U
2	List the aerodynamic forces that affect the aircraft.	M1.04	R
3	.....is the instrument used to measure mach number.	M2.04	R
4	Define pitot pressure.	M2.01	U
5	Write down the equation for dynamic pressure in pitot static probe.	M2.02	U
6	Up and down movement of aircraft is known as.....	M3.01	R
7	Write down any 2 advantages of tacho probe.	M3.05	R
8	List any 2 temperature sensing methods used in aircraft.	M4.01	R
9	Working principle of radiation pyrometer is.....	M4.02	U

PART - B

II. Answer *any eight* questions from the following. Each question carries 'Three' marks.

(8 x 3 = 24 Marks)

		Module Outcome	Cognitive level
1	Write short notes on history of aircrafts.	M1.03	U
2	Brief notes on straight scale displays.	M1.05	U
3	Draw the diagram of pitot static system of an aircraft.	M2.01	R
4	Explain any one of heating circuit arrangement in pitot probe	M2.02	U
5	Draw and label air speed indicator.	M2.04	R
6	Mention principles of gyro horizon.	M3.03	U

7	List degrees of freedom of gyroscope.	M3.01	R
8	Write working principles involved in electric method of driving gyroscope rotor.	M3.02	U
9	List mandatory parameters in flight data recording.	M4.06	R
10	Write constructional details of Bourdon tube pressure gauge.	M4.04	U

PART - C

Answer all the questions from the following. Each question carries 'seven' marks.

(6 x 7 = 42 Marks)

		Module Outcome	Cognitive level
III.	Draw and explain anatomy of airplane based on their control surfaces.	M1.02	U
	OR		
IV.	Describe circular scale displays with a neat diagram.	M1.05	U
V.	Illustrate sensing and transmission of pitot and static pressure with neat diagram.	M2.02	U
	OR		
VI.	With a suitable diagram, explain Mach meter.	M2.04	U
VII.	Describe Altimeter with a neat diagram.	M2.03	U
	OR		
VIII.	Explain the operation of vertical speed indicator under different flight conditions	M2.04	U
IX.	Illustrate various parameters in altitude indication of gyro instruments.	M3.01	U
	OR		
X.	Explain high pressure driven pneumatic method of gyroscope rotor.	M3.02	U
XI.	Write in detail about gyroscope and its fundamental properties.	M3.01	U
	OR		
XII.	Explain tacho probe and indicator system in aircraft.	M3.05	U
XIII.	Describe different types of thermocouples employed in aircraft.	M4.02	U
	OR		
XIV.	Explain the construction and working of capacitance fuel gauge system with suitable diagram.	M4.05	U

****