

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE, APRIL - 2025**

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 1 mark.

(9 x 1 = 9 Marks)

		Module outcome	Cognitive level
1	Define: Flight Instrument.	M1.01	R
2	Give the abbreviations of LED and LCD.	M1.05	R
3	Define static pressure.	M2.02	R
4	Write the equation for Mach number.	M2.04	R
5	State the use of an Aneroid barometer.	M2.03	R
6	Define the Precession of the gyroscope.	M3.01	R
7	Define the term gyro horizon.	M3.03	R
8	State the use of radiation pyrometers.	M4.03	R
9	State the working principle of thermocouple.	M4.02	R

PART B

II. Answer any eight questions from the following. Each question carries 3 marks.

(8 x 3 = 24 Marks)

		Module outcome	Cognitive level
1	Write any six of flight and navigation instruments.	M1.01	R
2	Explain the working of straight scale displays.	M1.05	U
3	Write the important elements in the anatomy of aircrafts. (Any 3)	M1.02	U
4	Draw the diagram for sensing and transmission of pitot and static pressures.	M2.02	U
5	Draw the figure of a Mach meter.	M2.04	R
6	Draw the diagram of a tacho probe.	M3.05	R
7	Give the definitions of the terms pitch, bank and turn, with reference to a gyroscope.	M3.01	R
8	Explain the three degree of rotational freedom of Gyroscopes.	M3.02	U
9	Draw and explain surface contact type thermocouple.	M4.02	U
10	Give the diagram of a radiation pyrometer.	M4.03	R

PART C

Answer all questions. Each question carries seven marks.

(6 x 7 = 42 Marks)

		Module outcome	Cognitive level
III	Draw and explain a circular display with a linear scale.	M1.05	U
	OR		
IV	Describe high-range long-scale displays, with suitable diagrams. (Any two).	M1.05	U
V	Explain about the coloured display, with the help of a neat sketch.	M1.05	U
	OR		
VI	Draw and explain a Head-up Display.	M1.05	U
VII	Draw and explain the heating circuit arrangement in pitot tube.	M2.02	U
	OR		
VIII	Describe the working of a vertical-speed indicator, with a diagram.	M2.04	U
IX	Describe the properties of the gyroscope.	M3.01	U
	OR		
X	Draw the schematic diagram of Gyro horizon/artificial horizon.	M3.03	U
XI	Explain the principle of pressure measurement, using C type bourdon tube.	M4.04	U
	OR		
XII	Explain the method of electromagnetic recording, with a figure.	M4.06	U
XIII	With a neat sketch, describe the working of the accelerometer used in aircrafts.	M4.07	U
	OR		
XIV	Describe the float operated fuel quantity measurement system.	M4.05	U
