

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE, APRIL - 2026**

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	Area where pilots and crew sit to fly an airplane is	M1.02	R
2	Father of aviation is	M1.03	R
3	Write expression for mach number.	M2.04	R
4	Define Altimeter.	M2.03	U
5	List main properties of gyroscope.	M3.01	U
6	State purpose of gyro horizon.	M3.03	R
7	Name degrees of freedom of a gyroscope.	M3.02	U
8	List any one principle method for flight data recording.	M4.06	U
9	Function of pressure switch in aircraft is	M4.04	U

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	Draw the diagram of head up display and label it.	M1.05	R
2	Mention the importance of Flight instruments.	M1.01	R
3	Draw and label the parts of vertical speed indicator.	M2.03	R
4	Brief notes on Mach meter.	M2.04	U
5	Write the importance of pitot static probe.	M2.01	U
6	Compare vacuum and high pressure driven gyroscope rotor .	M3.02	U
7	Write short notes on tacho probe.	M3.05	U
8	Define the terms: Pitch, Bank, Turn	M3.01	U
9	Sketch and label capacitance type fuel gauge system.	M4.05	U
10	List the applications of accelerometer in aircraft.	M4.07	R

PART C

Answer all questions. Each question carries seven marks

(6 x 7 = 42 Marks)

		Module outcome	Cognitive level
III	Explain aerodynamics and its forces acting on aircraft. OR	M1.04	U
IV	Describe high range long scale displays with a neat diagram.	M1.05	U
V	With a neat diagram, explain pitot static system in aircraft. OR	M2.01	U
VI	Draw and explain air speed indicator.	M2.04	U
VII	Describe heating circuit arrangement in pitot tube with suitable diagram. OR	M2.02	U
VIII	With a neat diagram, explain aneroid barometer.	M2.03	U
IX	Explain vacuum driven pneumatic method of gyroscope rotor with sketches. OR	M3.02	U
X	With necessary figures, explain gyroscope and its elements.	M3.01	U
XI	Describe electrically operated engine speed indicator in aircrafts. OR	M3.04	U
XII	Illustrate gyro horizon and its principles.	M3.03	U
XIII	Explain radiation pyrometer for measurement of exhaust gas temperature. OR	M4.03	U
XIV	Describe inductor pressure transmitter using suitable diagram.	M4.04	U
