

Name:	
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2022

Course: Aircraft Systems & Instrument
Program: B.Tech ASE/ ASE+AVE
Course Code: ASEG3009

Semester: VI
Time : 03 hrs.
Max. Marks: 100

Instructions: All questions are compulsory
Assume necessary data if not given.

SECTION A
(5Qx4M=20Marks)

S. No.		Marks	CO
Q 1	What are the characteristics required for choosing the fluid for Hydraulic systems?	4	CO2
Q 2	Briefly explain the aircraft pneumatic systems used in commercial aircrafts.	4	CO2
Q 3	How does the Auto Pilot system works in passenger aircraft.	4	CO1
Q 4	Which are the types of Fuel supply systems used in Jet engine aircraft?	4	CO3
Q 5	Define three control problems to be considered for better engine performance.	4	CO4

SECTION B
(4Qx10M= 40 Marks)

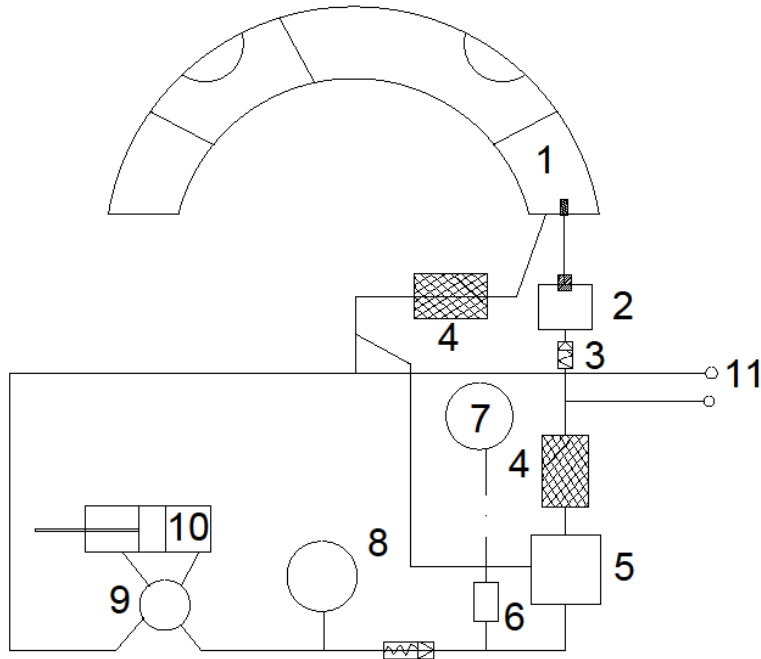
Q 1	What are the main functions of engine oil in the oil system?	10	CO3
Q 2	Comment on flight control system of fighter aircraft. How these control systems are different from conventional control systems? (provide neat sketches)	10	CO1
Q 3	Explain the working principles of gyroscopic instruments. OR What is the principle of Air Speed measuring Instrument used in aircraft?	10	CO5
Q 4	The A320 is one aircraft in four sizes (A318, A319, A320 and A321), representing the most successful and versatile jetliner family ever. Analyze the Landing gear system for A320 aircraft.	10	CO2

SECTION-C
(2Qx20M=40 Marks)

Q 1	a) Which are the types of engine starting systems used in Jet Engine aircraft?	10	CO4
	b) Explain working of different types of engine Instruments used in jet engine Aircrafts. (provide neat sketches)	10	CO5

Q 2

Identify and explain the control system of following hydraulic system in diagram,



OR

What is the most effective method of navigation in aircraft? How Pilots use NAVAIDS. Analyze the recent advancement in present day navigation technology.

20

CO2/
CO4