

Name:	
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
Online End Semester Examination, May 2021

Course: Aircraft Systems & Instruments
Program: B. Tech ASE & ASE+AVE
Course Code: ASEG 3009

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

Instructions: a) All questions are compulsory.
b) Use figures to explain the concept.

SECTION A

Q 1	What are the main functions of engine oil in the oil system?	5	CO3
Q2.	What are the advantages of fly by wire system?	5	CO1
Q3	List down the uses of the communication system in a modern airliner.	5	CO5
Q4.	What are the basic air cycle systems?	5	CO4
Q5	In what way the instrument landing system differ from ground controlled approach?	5	CO2
Q6	Differentiate between the check valve and non-return valve.	5	CO2

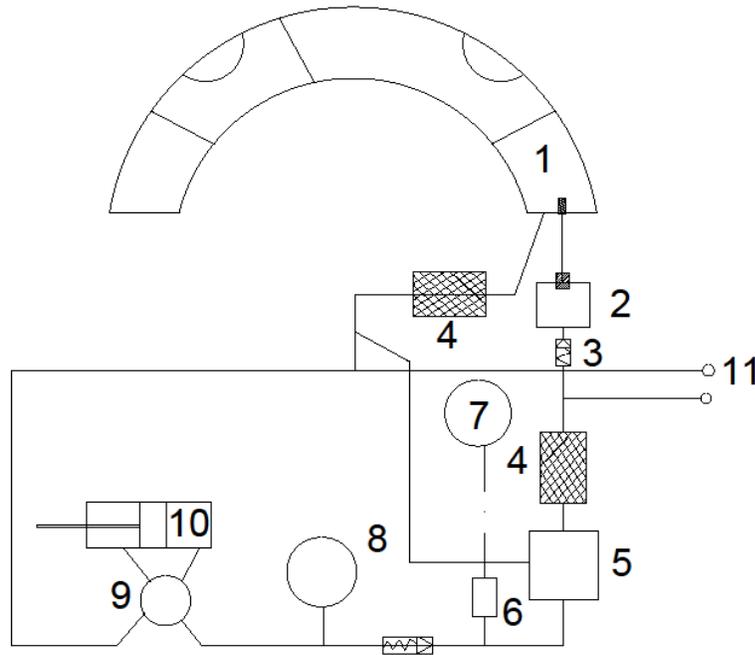
SECTION B

Q 1	Analyze the fuel system of piston and jet engine aircraft based on their design requirements.	10	CO3
Q 2	What do you understand by antiicing and deicing problems in aircraft? Explain the system to control them.	10	CO4
Q 3	Explain the working principles of gyroscopic instruments. OR Explain with neat sketch, construction and working of an Altimeter.	10	CO5
Q 4	What are the requirements of fire protection system? Explain briefly about the thermo couple and tubular heat detectors.	10	CO4
Q 5	Describe how fully powered flight control systems works.	10	CO1

SECTION-C

Q 1

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



OR

Explain the need of cabin presserization and oxygen supply sytem in aircrafts. Analyze the control of temperature integrated air conditioning systems in modern aircrafts (You can use any aircraft model for explanation).

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CO2
/
CO4