

<b>Name:</b> <b>Enrolment No:</b>	
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**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**  
**End Semester Examination, December 2022**

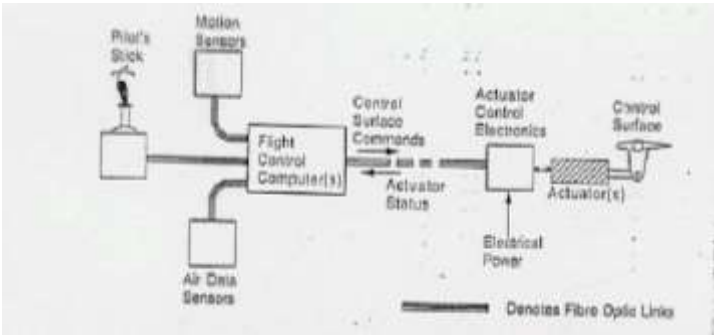
<b>Programme Name: B Tech (Aerospace Engineering with Spz. In Avionics)</b> <b>Course Name : Introduction to Avionics</b> <b>Course Code : AVEG 3001</b> <b>Nos. of page(s) : 02</b>	<b>Semester : V</b> <b>Time : 03 hrs</b> <b>Max. Marks: 100</b>
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**Instructions: Schematic diagrams are must in each answers**

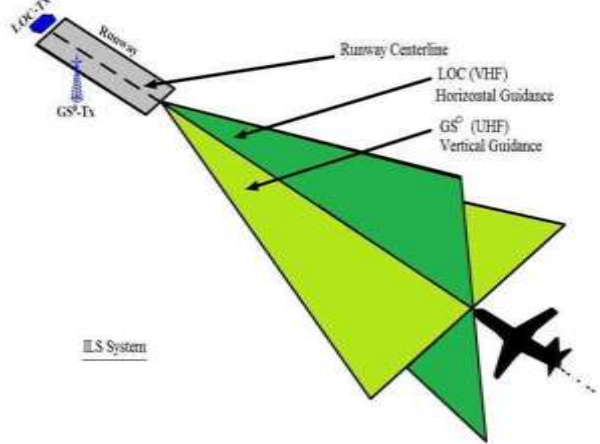
**SECTION A**  
**(5Qx4M=20Marks)**

S. No.	Question	Marks	CO
Q 1	Discriminate Aircraft Avionics and Spacecraft Avionics systems.	4	CO1
Q 2	Differentiate FBS and FBW systems.	4	CO2
Q 3	Discuss the different types of display systems used in Cockpits.	4	CO3
Q 4	Discuss the various Indian Space missions in last 5 Years.	4	CO 4
Q 5	Explain various navigation and guidance systems for the Aircrafts.	4	CO 4

**SECTION B**  
**(4Qx10M= 40 Marks)**

Q 6	Explain the functioning of FBW system. The diagram is as shown below. <div style="text-align: center; margin: 10px 0;">  </div>	10	CO4
Q 7	How ARINC series are used for military aircraft certifications? Discuss MILSTD in detail with the various series.	10	CO 3
Q 8	How IFR and VFR rules are applicable while approach of Landing?	10	CO 2
Q 9	Discuss the Drone Navigation Technologies. List out various Indian drones developed by DRDO	10	CO 1

**SECTION-C**  
**(2Qx20M=40 Marks)**

<p>Q 10</p>	<p>Describe ILS system in detail with all navigational datasets as per the figure shown below.</p>  <p>The diagram illustrates the ILS system components. At the top left, a runway is shown with a dashed line for the Runway Centerline. A blue dot labeled 'LOC-Tx' is positioned at the end of the runway, with a blue arrow pointing towards the runway. Below it, a blue dot labeled 'GS-Tx' is also positioned at the end of the runway, with a blue arrow pointing towards the runway. Two green beams originate from the GS-Tx and spread out downwards, representing the GS (UHF) Vertical Guidance. A single green beam originates from the LOC-Tx and spreads out horizontally, representing the LOC (VHF) Horizontal Guidance. An aircraft is shown at the bottom right, flying towards the runway. The entire system is labeled 'ILS System' at the bottom left.</p>	<p align="center"><b>20</b></p>	<p align="center"><b>CO2</b></p>
<p>Q 11</p>	<p>Discuss the case study of Avionics architecture of B-737 in detail with all Electrical and electronics systems wire diagram.</p>	<p align="center"><b>20</b></p>	<p align="center"><b>CO4</b></p>