

Name:

Enrolment No:



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2021

Programme Name: B.Tech ASE+AVE

Semester : VII

Course Name : Aerospace Navigation System

Time : 03 hrs

Course Code : AVEG 4005

Max. Marks : 100

Nos. of page(s) : 02

SECTION A

[4x5=20]

Type the Answers

S. No.		Marks	CO
Q 1	How latitude and longitude plays a vital role in defining the navigation positional information?	4	CO1
Q 2	Discuss the term HYPERBOLIC NAVIGATION SYSTEM	4	CO2
Q 3	How the surveying occurs using theodolite?	4	CO 3
Q 4	Pen down the principle of Global Positioning System.	4	CO 4
Q 5	What are the principles of Instrument Landing Systems?	4	CO1

SECTION B

[10x4=40]

Scan and upload

Q 6	Discuss the algorithm for Dead-reckoning navigation system. How DR works for the aircraft movement and how the estimated positions are calculated?	10	CO2
Q 7	Describe the principle of operation for LORAN Navigation system with schematic diagram.	10	CO 3
Q 8	Discuss the principle of VOR with the schematic diagram.	10	CO 3
Q 9	How the pilot describes "Decision Heights"? Describe the principle behind the same.	10	CO 2

SECTION-C

[2x20=40]

Q 10. Describe the each terms involved in it. How the sensors are useful in obtaining the data acquisition system?

CO 4

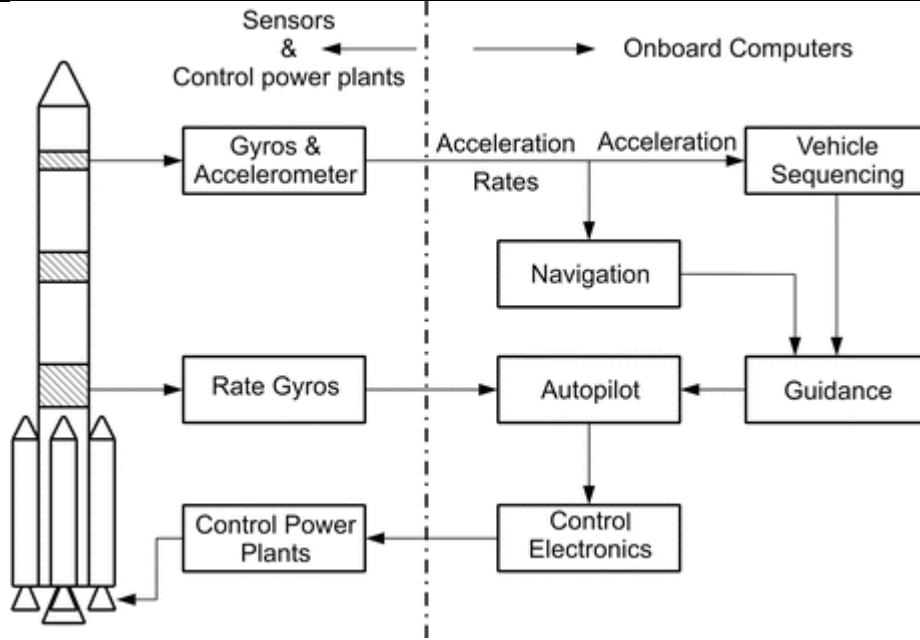


Figure 1. Guidance and Navigation Block

Q 11. How contour maps are useful in preparing the navigation charts useful in radar and sonar mapping. Discuss the chart as shown in Figure 2. 20

CO3

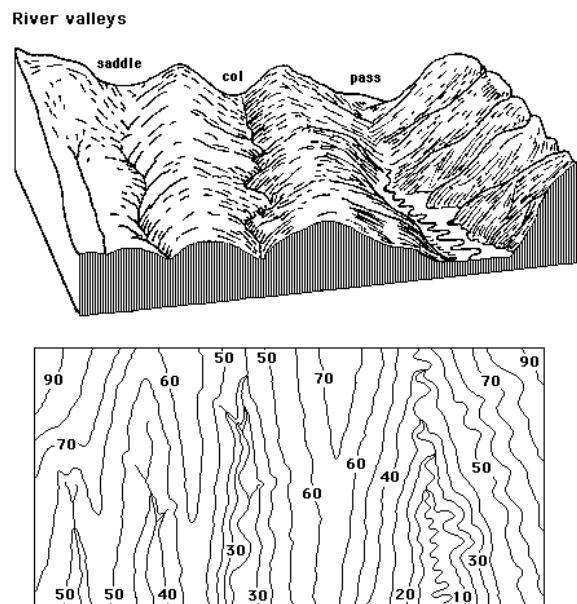


Figure 2