

Total No. of Questions: 09

B.Tech.(Aerospace Engg.) (Sem.-8) **GUIDANCE AND NAVIGATION** 

> Subject Code: ASPE-408 M.Code: 72571

Time: 3 Hrs. Max. Marks: 60

### **INSTRUCTIONS TO CANDIDATES:**

- SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks
- 2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
- SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

## **SECTION-A**

# www.FirstRanker.com 1. **Explain the following terms and their importance:**

- a) Navigation
- b) Guided missile
- c) Air data information
- d) Surveillance radar
- e) Euler angles
- f) Gyros
- g) Transfer function
- h) Doppler Effect
- i) Open loop system
- j) Stabilized platform



## **SECTION-B**

- Q2 Explain the concept of 'mono-pulse tracking'.
- Q3 Explain briefly various missile parameters used for dynamic analysis.
- Q4 Write a note on 'Satellite navigation'.
- Q5 Explain the concept of 'proportional navigation guidance'.
- Q6 Explain the working principle of 'GPS'.

# **SECTION-C**

- Q7 Explain the following:
  - a) Longitudinal flight control system and Lateral flight control system. (6)
  - b) Conical scan and sequential lobbing. (4)
- Q8 Explain the working principle of 'MTI and Pulse Doppler Radar'. What is moving target detector? List various limitations of MTI performance. (6,2,2)
- Q9 Write notes on the following:
  - a) Inertial navigation system (5)
  - b) Director fire control system (5)

NOTE: Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

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