

X


<https://swayam.gov.in>

https://swayam.gov.in/nc_details/NPTEL

reviewer4@nptel.iitm.ac.in ▾

NPTEL (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » **Design of fixed wing Unmanned Aerial Vehicles**
(course)

Announcements (announcements) **About the Course** (https://swayam.gov.in/nd1_noc19_ae06/preview)

Ask a Question (forum) Progress (student/home) Mentor (student/mentor)

Unit 8 - Week 7

Course outline

How to access the portal

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

- Lecture 19 - C.G. location and Longitudinal Static stability (unit? unit=42&lesson=43)

- Lecture 20 - Tutorial 1 (unit? unit=42&lesson=44)

- Quiz : **Assignment 07**

Assignment 07

The due date for submitting this assignment has passed. **Due on 2019-10-16, 23:59 IST.**
As per our records you have not submitted this assignment.

- 1) For an aircraft having $X_{cg} = 0.28$, C_m Vs C_L plot is shown in the figure 1. The static margin for this aircraft is? **2 points**

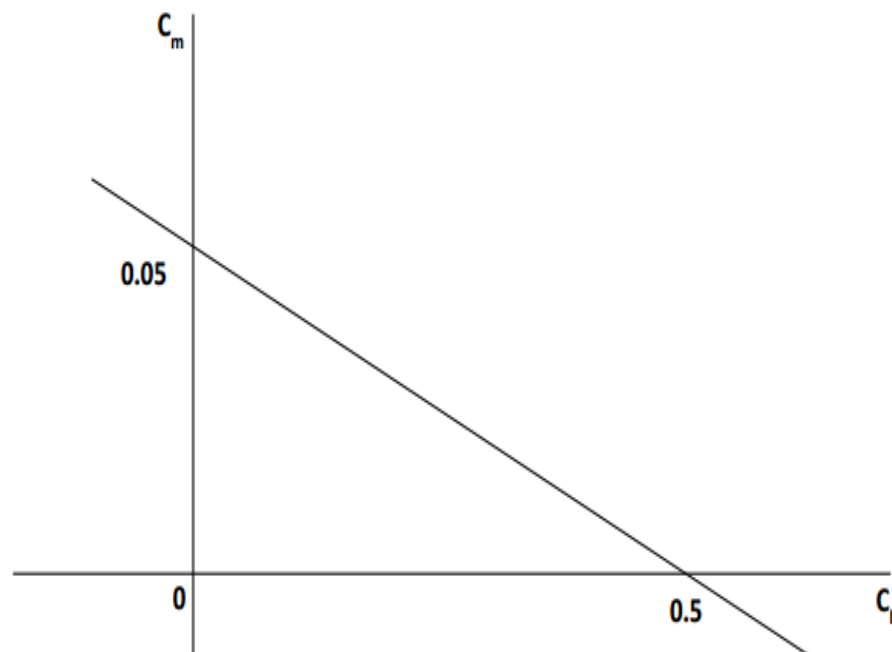


Figure 1

(assessment?
name=76)

- Practice Assignments (unit? unit=42&lesson=77)
- Feedback For Week 7 (unit? unit=42&lesson=78)
- Assignment 07 Solution (unit? unit=42&lesson=82)

Week 8

Text
Transcription

- 10%
- 10%
- 1%
- 1%

No, the answer is incorrect.
Score: 0

Accepted Answers:
10%

2) For an aircraft having $X_{CG} = 0.20$, C_m Vs C_L plot is shown in the figure 2. The neutral point (X_{NP}) is? **2 points**

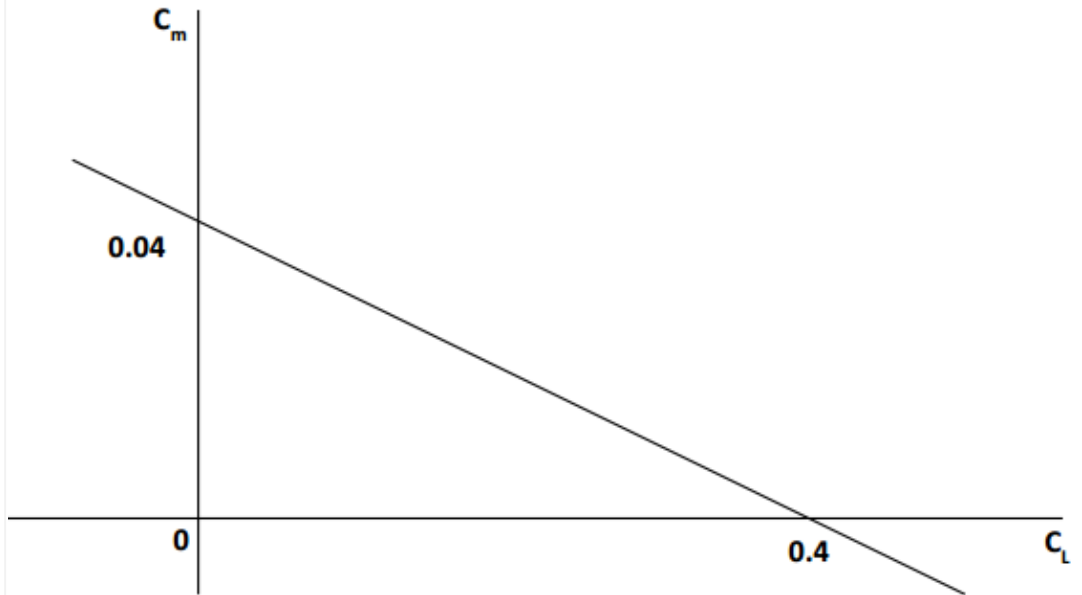


Figure 2

- 0.20
- 0.30
- 0.10
- 0.00

No, the answer is incorrect.
Score: 0

Accepted Answers:
0.30

3) Which one is correct at neutral point of UAV? **2 points**

- $X_{NP} = X_{cg}$
- $\frac{dC_m}{dC_L} = 0$
- $\frac{dC_m}{d\alpha} = 0$
- All of these

No, the answer is incorrect.
Score: 0

Accepted Answers:

All of these

4) The pitching moment coefficient with respect to centre of gravity of an UAV is given by $C_{m_{total}} = 0.05 - 0.0251\alpha$. The trim angle-of-attack (α) of UAV will be? **2 points**

2°

1°

5°

0°

No, the answer is incorrect.

Score: 0

Accepted Answers:

2°

5) In an UAV without changing any other dimensions the area of horizontal tail become double. **2 points**
Due to this change the longitudinal stability of UAV will?

Increases

Decreases

Remain same

Cannot say

No, the answer is incorrect.

Score: 0

Accepted Answers:

Increases