

Unit 5 - Week 04

Course outline

How does an NPTEL online course work?

Week 01

Week 02

Week 03

Week 04

Revision.

Range and Endurance

Range and Endurance: Continued...

Gliding Flight

Accelerated Flight

V-n Diagram

Quiz : Assignment 04

Feedback For Week 4

Assignment 04 Solution

WEEK 05

WEEK 06

WEEK 07

WEEK 08

Text Transcripts

VIDEO DOWNLOADS

Assignment 04

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-02-26, 23:59 IST.

1) **Data for question No: 1 to 6**

1 point

The drag polar of an airplane is given by

$$C_D = 0.038 + 0.0458C_L^2$$

Lift curve slope of the wing ($C_{L\alpha}$) is 0.088/deg and zero lift angle($\alpha_{L=0}$) is -2.0° .

Note (Stall Angle of wing =16 degree)

What is the parasite drag coefficient (C_{D0})?

- 0.045
 0.000
 0.019
 0.038

No, the answer is incorrect.
Score: 0

Accepted Answers:
0.038

2) What is the induced drag factor (k)?

1 point

- 0.021
 0.045
 0.022
 0.000

No, the answer is incorrect.
Score: 0

Accepted Answers:
0.045

3) The angle-of-attack (in degree) of Airplane for maximum range condition?

1 point

- 7.86
 8.35
 12.3
 2.58

No, the answer is incorrect.
Score: 0

Accepted Answers:
8.35

4) The angle-of-attack (in degree) of Airplane for minimum power condition?

1 point

- 11.58
 10.58
 13.93
 15.93

No, the answer is incorrect.
Score: 0

Accepted Answers:
15.93

5) The Aerodynamic efficiency (L/D) at maximum range condition will be?

1 point

- 11.98
 10.50
 9.850
 10.16

No, the answer is incorrect.
Score: 0

Accepted Answers:
11.98

6) The Aerodynamic efficiency (L/D) at minimum power condition will be?

1 point

- 6.21
 3.45
 8.56
 10.4

No, the answer is incorrect.
Score: 0

Accepted Answers:
10.4

7) Generally, the load factor ($n=L/W$) during descent will be?

1 point

- >1
 =0
 <1
 =1

No, the answer is incorrect.
Score: 0

Accepted Answers:
<1

8) Airplane is flying at maximum range condition at cruise velocity of 30 m/s in steady, straight and level flight condition. What will be the load factor of Airplane in this case? **1 point**

- 1.0
 1.5
 1.1
 2.0

No, the answer is incorrect.
Score: 0

Accepted Answers:
1.0

9) With increase in Wing loading (W/S), the corner velocity of Airplane will?

1 point

- Increases
 Decreases
 Remain Constant
 None of these

No, the answer is incorrect.
Score: 0

Accepted Answers:
Increases

10) With increase in altitude the corner velocity of Airplane will?

1 point

- Decreases
 Increases
 Remain Constant
 None of these

No, the answer is incorrect.
Score: 0

Accepted Answers:
Increases