

Unit 5 - Week 3

Course outline
How does an NPTEL online course work?
Week 0
Week 1
Week 2
Week 3
● Lecture 13 : Airliners
○ Lecture 14 : Key Issues in Design of Airliners
○ Lecture 15 : Design Considerations- Future Airliners
○ Lecture 16 : Supersonic Transport Aircraft
○ Lecture 17 : Airliner and Supersonic Aircraft, some additional concepts
○ Lecture 18 : Design Considerations- Cargo Aircraft
○ Lecture 19 : Design Considerations- GA Aircraft
○ Lecture 20 : Types of Military Aircraft
○ Lecture 21 : Cargo, GA and Military Aircraft, Some additional concepts
○ Quiz : Assignment 3
○ Assignment-3 Solutions
○ Weekly feedback
○ Download Videos
Week 4
Week 5
Week 6
Week 7
Week 8
Week 9
Week 10
Week 11
Week 12
Live Session
Text Transcripts

Assignment 3

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

Due on 2020-10-07, 23:59 IST.

- 1) Roll trim is achieved in Concorde SST aircraft by 1 point
- deflection of elevons
 - transfer of fuel between wing and fuselage tanks
 - transfer of fuel between port and starboard wing tanks
 - transfer of fuel between horizontal tail and fuselage

No, the answer is incorrect.
Score: 0

Accepted Answers:
transfer of fuel between port and starboard wing tanks

- 2) Quarter chord Sweep of most Airliners is in the range of 1 point
- 45° to 60°
 - 35° to 38°
 - 25° to 30°
 - 15° to 20°

No, the answer is incorrect.
Score: 0

Accepted Answers:
 35° to 38°

- 3) What is the name of the wing shape used in the Concorde SST Airliner? 1 point
- Compound Delta
 - Ogive Delta
 - Double Delta
 - Cranked Delta

No, the answer is incorrect.
Score: 0

Accepted Answers:
Ogive Delta

- 4) Which of the following features is/are NOT provided in A-10 Thunderbolt aircraft? 1 point
- Infrared Masking
 - Cockpit Armor
 - Stealth
 - Ammo Drum Protection

No, the answer is incorrect.
Score: 0

Accepted Answers:
Stealth

- 5) Which of the following is/are NOT a key requirement for an Interceptor aircraft? 1 point
- Low fuel consumption
 - High Rate of Climb
 - High T/W
 - High Manoeuvrability

No, the answer is incorrect.
Score: 0

Accepted Answers:
Low fuel consumption

- 6) Which of the following factors affect the fuselage sizing in airliners? 1 point
- Wing sweep angle
 - Type of powerplant
 - Volume required for passengers and cargo
 - Cruise Drag

No, the answer is incorrect.
Score: 0

Accepted Answers:
*Volume required for passengers and cargo
Cruise Drag*

- 7) Most of the airliners use high by-pass ratio turbofan engines because of 1 point
- low specific fuel consumption
 - lower emissions
 - lower noise levels
 - high power during takeoff and landing

No, the answer is incorrect.
Score: 0

Accepted Answers:
*low specific fuel consumption
lower emissions
lower noise levels*

- 8) What is/are the challenge(s) that we may face by increasing the Aspect Ratio of wings in airliners? 1 point
- Induced drag will increase
 - Skin friction drag will increase
 - Aeroelastic vibrations
 - Wing weight will increase

No, the answer is incorrect.
Score: 0

Accepted Answers:
*Aeroelastic vibrations
Wing weight will increase*

- 9) Which of the following statement(s) is/are FALSE about An-225 *Mriya* ? 1 point
- It has MTOW of 640 tons.
 - It is powered with 6 Turbojet engines with each engine producing 230 kN thrust.
 - It is the largest aircraft based on the wing span.
 - It was designed for transporting the subassemblies of the aircraft to the final assembly hanger.

No, the answer is incorrect.
Score: 0

Accepted Answers:
*It is the largest aircraft based on the wing span.
It was designed for transporting the subassemblies of the aircraft to the final assembly hanger.*

- 10) Non V/STOL aircrafts have, which of the following key features? 1 point
- Small in dimensions
 - Large in dimensions
 - Better corrosion resistance
 - Strong landing gear

No, the answer is incorrect.
Score: 0

Accepted Answers:
*Small in dimensions
Better corrosion resistance
Strong landing gear*