

Code No: R07A12101

R07

Set No. 2

I B.Tech Examinations, December 2010
INTRODUCTION TO AEROSPACE ENGINEERING
Aeronautical Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Describe the difference between conventional landing and tricycle landing gears. [16]
2. Explain the factors affecting the performance of the aircraft during steady flight. [16]
3. Explain in detail the different types of entry paths of a space vehicle. [16]
4. Consider a rocket with Kerosine - Oxygen as the fuel - oxidiser combination. The ratio of initial weight before blast off to the final weight at burnout is 5.5. Calculate the burner velocity. [16]
5. (a) Define boundary layer. Explain Reynolds number.
(b) Discuss in detail about the various types of drag in an airplane and methods of minimising the drag. [6+10]
6. (a) Write the purpose of angle of attack indicator?
(b) Explain about Artificial horizon as can be visualised. [8+8]
7. (a) Discuss about the material commonly used in flight structure?
(b) State the advantages of aluminum which makes it suitable for aircraft industry. [8+8]
8. (a) At what part of a wing does a shock wave is formed first.
(b) What is the buffer boundary of an aircraft? [8+8]

Code No: R07A12101

R07**Set No. 4**

I B.Tech Examinations, December 2010
INTRODUCTION TO AEROSPACE ENGINEERING
Aeronautical Engineering

Time: 3 hours**Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

1. Consider a rocket with Kerosine - Oxygen as the fuel - oxidiser combination. The ratio of initial weight before blast off to the final weight at burnout is 5.5. Calculate the burner velocity. [16]
2. (a) Define boundary layer. Explain Reynolds number.
(b) Discuss in detail about the various types of drag in an airplane and methods of minimising the drag. [6+10]
3. Explain the factors affecting the performance of the aircraft during steady flight. [16]
4. Explain in detail the different types of entry paths of a space vehicle. [16]
5. Describe the difference between conventional landing and tricycle landing gears. [16]
6. (a) Write the purpose of angle of attack indicator?
(b) Explain about Artificial horizon as can be visualised. [8+8]
7. (a) At what part of a wing does a shock wave is formed first.
(b) What is the buffer boundary of an aircraft? [8+8]
8. (a) Discuss about the material commonly used in flight structure?
(b) State the advantages of aluminum which makes it suitable for aircraft industry. [8+8]

Code No: R07A12101

R07

Set No. 1

I B.Tech Examinations, December 2010
INTRODUCTION TO AEROSPACE ENGINEERING
Aeronautical Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Write the purpose of angle of attack indicator?
(b) Explain about Artificial horizon as can be visualised. [8+8]
2. Describe the difference between conventional landing and tricycle landing gears. [16]
3. (a) At what part of a wing does a shock wave is formed first.
(b) What is the buffer boundary of an aircraft? [8+8]
4. (a) Discuss about the material commonly used in flight structure?
(b) State the advantages of aluminum which makes it suitable for aircraft industry. [8+8]
5. Explain in detail the different types of entry paths of a space vehicle. [16]
6. Consider a rocket with Kerosine - Oxygen as the fuel - oxidiser combination. The ratio of initial weight before blast off to the final weight at burnout is 5.5. Calculate the burner velocity. [16]
7. Explain the factors affecting the performance of the aircraft during steady flight. [16]
8. (a) Define boundary layer. Explain Reynolds number.
(b) Discuss in detail about the various types of drag in an airplane and methods of minimising the drag. [6+10]

Code No: R07A12101

R07**Set No. 3**

I B.Tech Examinations, December 2010
INTRODUCTION TO AEROSPACE ENGINEERING
Aeronautical Engineering

Time: 3 hours**Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

1. Consider a rocket with Kerosine - Oxygen as the fuel - oxidiser combination. The ratio of initial weight before blast off to the final weight at burnout is 5.5. Calculate the burner velocity. [16]
2. Explain the factors affecting the performance of the aircraft during steady flight. [16]
3. (a) At what part of a wing does a shock wave is formed first.
(b) What is the buffer boundary of an aircraft? [8+8]
4. Explain in detail the different types of entry paths of a space vehicle. [16]
5. Describe the difference between conventional landing and tricycle landing gears. [16]
6. (a) Define boundary layer. Explain Reynolds number.
(b) Discuss in detail about the various types of drag in an airplane and methods of minimising the drag. [6+10]
7. (a) Discuss about the material commonly used in flight structure?
(b) State the advantages of aluminum which makes it suitable for aircraft industry. [8+8]
8. (a) Write the purpose of angle of attack indicator?
(b) Explain about Artificial horizon as can be visualised. [8+8]
