

Code No: R07A12101

**R07**

**Set No. 2**

**I B.Tech Examinations, May 2011**  
**INTRODUCTION TO AEROSPACE ENGINEERING**  
**Aeronautical Engineering**

**Time: 3 hours**

**Max Marks: 80**

**Answer any FIVE Questions**  
**All Questions carry equal marks**

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1. Write shorts notes on: [8+8]
  - (a) Gliding and climbing flight.
  - (b) Longitudinal stability.
2. (a) What is the purpose of drag and anti-drag wires?  
(b) State and explain Stalling. [10+6]
3. Derive expressions for the pressure, velocity on the surface of a rotating circular cylinder in a uniform flow. [16]
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. (a) Mention the merits of turbojet engine.  
(b) Mention various aircrafts using the power plants of jet and piston engines.  
(c) Name the aircrafts having turbo shaft engines. [6+6+4]
6. (a) What methods may be used to power gyro instruments?  
(b) How does the gyro indicate a rate of turn? [8+8]
7. What is the difference between lift and drag? Explain with neat sketch the forces acting on the aircraft in level flight? [16]
8. Discuss about the selection of commonly used materials in construction of satellite structures. [16]

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**R07**

**Set No. 4**

**I B.Tech Examinations, May 2011**  
**INTRODUCTION TO AEROSPACE ENGINEERING**  
**Aeronautical Engineering**

**Time: 3 hours**

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**All Questions carry equal marks**

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2. (a) What methods may be used to power gyro instruments?  
(b) How does the gyro indicate a rate of turn? [8+8]
3. Discuss about the selection of commonly used materials in construction of satellite structures. [16]
4. (a) What is the purpose of drag and anti-drag wires?  
(b) State and explain Stalling. [10+6]
5. Write shorts notes on: [8+8]
  - (a) Gliding and climbing flight.
  - (b) Longitudinal stability.
6. (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]
7. What is the difference between lift and drag? Explain with neat sketch the forces acting on the aircraft in level flight? [16]
8. (a) Mention the merits of turbojet engine.  
(b) Mention various aircrafts using the power plants of jet and piston engines.  
(c) Name the aircrafts having turbo shaft engines. [6+6+4]

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**Set No. 1**

**I B.Tech Examinations, May 2011**  
**INTRODUCTION TO AEROSPACE ENGINEERING**  
**Aeronautical Engineering**

**Time: 3 hours**

**Max Marks: 80**

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**All Questions carry equal marks**

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1. Write shorts notes on: [8+8]
  - (a) Gliding and climbing flight.
  - (b) Longitudinal stability.
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  - (a) Mention the merits of turbojet engine.
  - (b) Mention various aircrafts using the power plants of jet and piston engines.
  - (c) Name the aircrafts having turbo shaft engines. [6+6+4]
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  - (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]

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**R07**

**Set No. 3**

**I B.Tech Examinations, May 2011**  
**INTRODUCTION TO AEROSPACE ENGINEERING**  
**Aeronautical Engineering**

**Time: 3 hours**

**Max Marks: 80**

**Answer any FIVE Questions**  
**All Questions carry equal marks**

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1. Discuss about the selection of commonly used materials in construction of satellite structures. [16]
2. (a) What is the purpose of drag and anti-drag wires?  
(b) State and explain Stalling. [10+6]
3. Derive expressions for the pressure, velocity on the surface of a rotating circular cylinder in a uniform flow. [16]
4. Write shorts notes on: [8+8]
  - (a) Gliding and climbing flight.
  - (b) Longitudinal stability.
5. (a) What methods may be used to power gyro instruments?  
(b) How does the gyro indicate a rate of turn? [8+8]
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