

Code No: 07A42102

R07

Set No. 2

II B.Tech II Semester Examinations, December 2010
AIRCRAFT PRODUCTION TECHNOLOGY
Aeronautical Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Explain Laser Beam generation.
(b) Explain the applications of Laser Beam Machining. [8+8]
2. Explain how the grain size and shape affect the performance of a foundry sand. [16]
3. Write short notes on:
(a) Cylindrical locating pins
(b) Diamond locators
(c) Cam operated clamps. [16]
4. Explain in detail about hydraulic shaper mechanism with neat sketch. [16]
5. Explain various types of resistance welding processes with neat sketches. [16]
6. Explain the salient features of ISO 9000 series. [16]
7. (a) Discuss the alloying elements which improves strength of pure titanium.
(b) Discuss the application of titanium and its alloys. [8+8]
8. Differentiate between super plastic forming and diffusion forming. [16]

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R07**Set No. 4**

II B.Tech II Semester Examinations, December 2010
AIRCRAFT PRODUCTION TECHNOLOGY
Aeronautical Engineering

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

Answer any FIVE Questions
All Questions carry equal marks

1. Discuss about the special heat treatment subjected to Cast Aluminium alloys. [16]
2. (a) With neat schematic diagram explain the principle of Electro-Chemical Machining!
(b) Compare Electro-plating with Electro-Chemical Machining. [8+8]
3. Discuss re-heating and post-heating requirement of low alloy steels. [16]
4. Name and explain various methods of taper turning on a lathe. [16]
5. (a) What is meant by the term 'risering' ?
(b) State the advantages that are provided by a riser. [8+8]
6. Write short notes on:
(a) Aircraft Tooling
(b) Drill jigs
(c) Hole preparation for bolted joints. [6+4+6]
7. Explain the metal flow in a drawing die applicable to sheet metal work. [16]
8. (a) "Quality or Reliability" which is important for a product? Discuss.
(b) Explain the terms "Mean time between failure" and "Mean time to Restore". [10+6]

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R07

Set No. 1

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AIRCRAFT PRODUCTION TECHNOLOGY
Aeronautical Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Explain the clearances that are provided for die and punch for various punching operations. [16]
2. With neat sketches explain different locating elements used in Jigs and Fixtures. [16]
3. Differentiate the numerical controlled and computerized numerically controlled machines. [16]
4. (a) Explain how various alloys can be classified.
(b) Explain how aluminum alloys classified when used for aircraft application. [8+8]
5. Compare the Abrasive Jet Machining and Ultrasonic Machining? [16]
6. (a) Discuss the materials for flame and induction hardening.
(b) What are the advantages of Flame and induction hardening? [8+8]
7. Explain, how reliability of series and parallel systems are calculated, if individual components reliability is given. [16]
8. (a) What are the steps involved in setting up a welding outfit?
(b) Explain the difference in forehand welding and backhand welding. [8+8]

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R07**Set No. 3**

II B.Tech II Semester Examinations, December 2010
AIRCRAFT PRODUCTION TECHNOLOGY
Aeronautical Engineering

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

Answer any FIVE Questions
All Questions carry equal marks

1. What is the cardinal principle employed in precision investment casting? [16]
2. Write short notes on:
 - (a) Hardenability of Steel
 - (b) Quenching. [16]
3. (a) Describe the type of flame used for welding lead.
(b) How are the oxides eliminated during the bronze welding process? [8+8]
4. (a) Differentiate between Quality and Reliability.
(b) Compare the following:
 - i. Inspection
 - ii. Quality Control
 - iii. Quality assurance. [10+6]
5. Explain in-detail the following Electro-Chemical Machining applications.
 - (a) Electro-chemical Grinding
 - (b) Electro-Chemical Deburring. [16]
6. Explain various miscellaneous bending techniques for different materials. [16]
7. (a) "Jigs are most widely used in Drilling Operation" Justify.
(b) "Design of Jigs and Fixtures is a creative design" Explain. [10+6]
8. (a) What are the difference between dry and wet grinding?
(b) Explain various principal grinding operations that can be performed. [8+8]
