

Code No: R09222102

R09

Set No. 2

II B.Tech II Semester Examinations, April/May 2012
AIRCRAFT PRODUCTION TECHNOLOGY
Aeronautical Engineering

Time: 3 hours

Max Marks: 75

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Differentiate between Jigs and Fixtures.
(b) Classify Jigs and Fixtures. [15]
2. Compare the casting process with other manufacturing processes. [15]
3. (a) Explain in detail the working and construction of upset welding. Give a neat sketch.
(b) Explain in detail the working and construction of percussion welding. Give a neat sketch. [15]
4. Why is blank holding necessary in a sheet metal drawing operation? Give the difference between Punching & Blanking. [15]
5. Explain the working of a horizontal shaper. Draw neat and relevant sketches [15]
6. Explain the initial stresses and the stress alleviation procedures in manufacturing [15]
7. What is the use of high energy density for machining? What are the processes which are included in this? [15]
8. a) Explain the terms reliability and zero defect program
b) Discuss the international standards (c) Six sigma quality (15)

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Set No. 4

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AIRCRAFT PRODUCTION TECHNOLOGY
Aeronautical Engineering

Time: 3 hours

Max Marks: 75

Answer any FIVE Questions
All Questions carry equal marks

1. Distinguish between bending and drawing in sheet metal operations. [15]
2. State and explain the difference between hardening and case hardening. [15]
3. Explain the working principle of ECM with a neat diagram. [15]
4. Explain the role and importance of CNC machine in the field of aircraft industry.
Explain the distinct features of CNC machines. [15]
5. What are the main characteristics which a good moulding sand should possess? How do these characteristics influence the performance of moulding sand during moulding and casting? [15]
6. Explain the gas metal arc welding processes with the help of neat sketches. Give its advantages and disadvantages. [15]
7. Explain the various types of rivets that are used in an aircraft industry.
Justify your answer with respect to the loads and atmospheric effects over an aircraft. [15]
8. Name several material and process variables that can influence product quality in metal.
 - (a) Casting
 - (b) Forming and
 - (c) Machining. [15]

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Set No. 1

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AIRCRAFT PRODUCTION TECHNOLOGY
Aeronautical Engineering

Time: 3 hours

Max Marks: 75

Answer any FIVE Questions
All Questions carry equal marks

1. Bring out the differences between Galvanizing and Tinning. [15]
2. How is a metal inspected by ultrasonic testing and X-rays? [15]
3. What are the advantages and drawbacks of ultrasonic machining process? [15]
4. Summarize the principles of the different types of casting. [15]
5. Explain the tooling docks/tooling bars method in jig alignments. [15]
6. Describe the equipments used and processes employed in arc welding and gas welding (15)
7. Bring out the differences between milling and grinding. [15]
8. Explain super plastic forming and diffusion bonding processes? [15]

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Set No. 3

II B.Tech II Semester Examinations, April/May 2012
AIRCRAFT PRODUCTION TECHNOLOGY
Aeronautical Engineering

Time: 3 hours

Max Marks: 75

Answer any FIVE Questions
All Questions carry equal marks

1. Write about the various types of Riveted joints with the help of neat sketches in the Aircraft assembly. [15]
2. Bring out the merits and limitations of different manufacturing processes. [15]
3. Briefly explain the following processes.
 - (a) nitriding
 - (b) induction hardening. [15]
4. What is Electric Discharge Machining? When do you use reverse polarity in EDM? [15]
5. Explain arc welding and brazing techniques, bringing out where they are used. [15]
6. Explain the international standards of quality control and assurance that are in practice pertaining to the field of aircraft industry. [15]
7. Estimate the forces required for a 90° bending of St 50 steel of thickness 2 mm in a V die. The die opening can be taken as eight times the thickness. The length of the bent part is 1 m. [15]
8. With neat sketches, Explain the parts and working of a lathe [15]
