

Code: 9A21405

B.Tech II Year II Semester (R09) Regular & Supplementary Examinations, April/May 2013

AIRCRAFT PRODUCTION TECHNOLOGY

(Aeronautical Engineering)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions
All questions carry equal marks

1. (a) Explain the different parts of gating system and its functions.
(b) Explain the three types of centrifugal casting with a neat figure.
2. Explain the process of oxy-acetylene welding with the different flames and their composition. Discuss the equipment required for the welding.
3. (a) Explain with a neat sketch the shaping machine.
(b) Discuss about the Whitworth quick return and crank and slotted lever mechanism with neat sketches.
4. Explain the terms with a neat sketch and give some examples.
(a) Shearing.
(b) Bending.
5. (a) Explain with a neat sketch the laser beam machining. Give some applications.
(b) Explain with a neat sketch the plasma arc welding with advantages.
6. Explain the terms with give some examples.
(a) Quenching.
(b) Annealing.
(c) Normalizing.
(d) Honing.
7. (a) Differentiate jigs with fixtures.
(b) Classify jigs and fixtures with some examples each.
8. (a) Explain the dye penetration test with neat sketches.
(b) Explain what you mean by quality circles and quality assurance. How do these help in improving the quality and control the quality?

Code: 9A21405

B.Tech II Year II Semester (R09) Regular & Supplementary Examinations, April/May 2013

AIRCRAFT PRODUCTION TECHNOLOGY

(Aeronautical Engineering)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions
All questions carry equal marks

1. (a) Explain the two types of die casting with a neat figure.
(b) Explain about different allowances that are taken during casting.
2. Explain the process of arc welding, and also discuss the equipment required for the welding.
3. (a) Explain with a neat sketch the drilling machine.
(b) Discuss the terminology of twist drill with neat sketches.
4. Explain the terms with a neat sketch and give some examples.
 - (a) Blanking.
 - (b) Punching.
 - (c) Spinning.
 - (d) Lancing.
5. (a) Explain with a neat sketch the electro discharge machining. Also give some applications.
(b) Explain with a neat sketch the abrasive jet welding with advantages.
6. (a) Discuss the alloying elements which improve strength of pure titanium.
(b) Discuss various application of titanium and its alloys in aerospace industry.
7. (a) Explain about project related tools with neat sketches.
(b) Explain the various jigs used in aircraft industry.
8. (a) Explain the magnetic particle test with neat sketches.
(b) Classify the destructive and non-destructive testing, enumerate the advantages, disadvantages, and examples for each of them.

Code: 9A21405

B.Tech II Year II Semester (R09) Regular & Supplementary Examinations, April/May 2013

AIRCRAFT PRODUCTION TECHNOLOGY

(Aeronautical Engineering)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions
All questions carry equal marks

1. (a) Explain precision investment casting with a neat figure.
(b) Explain about any five types of patterns with a neat sketch.
2. Explain the process of resistance welding, and also discuss the spot, seam, percussion welding.
3. (a) Explain with a neat sketch the milling machine.
(b) Discuss about slab milling, end milling.
4. Explain the terms with a neat sketch the procedure and give some examples.
 - (a) Deep drawing.
 - (b) Diffusion bonding.
 - (c) Super plastic forming.
 - (d) Drop stamping.
5. (a) Explain with a neat sketch the electro chemical machining. Also give some applications.
(b) Explain with a neat sketch the water jet welding with advantages.
6. Explain the terms and the process with give some examples.
 - (a) Organic coatings.
 - (b) Nitriding.
 - (c) Heat treatment.
7. (a) Jigs are most widely used in drilling operations-justify it.
(b) Explain the different mechanical clamping system used in fixtures.
8. (a) Explain the ultrasonic test with neat sketches.
(b) Explain the terms:
 - (i) Inspection.
 - (ii) Quality assurance.
 - (iii) ISO 9000.
 - (iv) Quality Circles.

Code: 9A21405

B.Tech II Year II Semester (R09) Regular & Supplementary Examinations, April/May 2013

AIRCRAFT PRODUCTION TECHNOLOGY

(Aeronautical Engineering)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions
All questions carry equal marks

1. (a) Classify the different types of casting processes employed.
(b) Explain the shell molding with a neat sketch.
2. Explain the process of soldering technique used for welding.
3. (a) Explain with a neat sketch the lathe machine.
(b) Discuss about slab milling, end milling.
4. Explain the terms with a neat sketch and give some examples.
 - (a) Deep drawing.
 - (b) Diffusion bonding.
 - (c) Super plastic forming.
 - (d) Drop stamping.
5. (a) Explain with a neat sketch the electro chemical machining. Also give some applications.
(b) Explain with a neat sketch the water jet welding with advantages.
6. Explain the terms with give some examples.
 - (a) Surface finishing.
 - (b) Heat treatment.
 - (c) Polishing.
 - (d) Organic coatings.
7. Write short notes on:
 - (a) Cylindrical locating pins.
 - (b) Diamond locators.
 - (c) Cam operated clamps.
8. (a) Explain the X-rays test with neat sketches.
(b) Explain the terms:
 - (i) Quality.
 - (ii) Reliability.
 - (iii) ISO 9000.
 - (iv) Quality Circles.
