1

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?

2

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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.

3

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.

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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

- (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.