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10AE753

**Seventh Semester B.E. Degree Examination, June/July 2017**  
**Aircraft maintenance Repair and Overhaul**

Time: 3 hrs.

Max. Marks: 100

**Note: Answer FIVE full questions, selecting at least TWO questions from each part.**

**PART – A**

- 1 a. Name the two principle type of welding torches and explain with neat diagram. (10 Marks)  
b. Explain the purpose of welding fixtures with neat diagram. (05 Marks)  
c. Discuss the limitation on soldering and brazing as a method for aircraft repair. (05 Marks)
- 2 a. What is the philosophy of NDI? (04 Marks)  
b. Define the following :  
i) Negligible damage    ii) Repairable damage    iii) Replacement damage. (06 Marks)  
c. What are the general design assumptions of fastener secured repair? (06 Marks)  
d. What is Rivet pitch and gauge? How they are measured? (04 Marks)
- 3 a. Describe the technique for cleaning a plastic surface. (07 Marks)  
b. Explain the following with neat diagram  
i) A surface patch for a crack in plastic  
ii) Plug patch repair process. (08 Marks)  
c. How are plastic sheets protected while in storage? (05 Marks)
- 4 a. Explain the following :  
i) Audible sonic testing    ii) Automated Taptest    iii) Phased array inspection. (09 Marks)  
b. Explain Heat Lamp instructions for composite repair with neat diagram. (11 Marks)

**PART – B**

- 5 a. Explain with a diagram that illustrate the balance checking procedure for light airplane. (08 Marks)  
b. What is the final inspection required for control system? (04 Marks)  
c. Explain function of vibrex crack and balance system. (04 Marks)  
d. List the flight controls of a helicopter and explain their purpose. (04 Marks)
- 6 a. Explain in detail the inspection and maintenance of landing gear system. (10 Marks)  
b. With neat sketch explain passenger water system in Airplane. (10 Marks)
- 7 a. With a neat sketch, explain flight control position indicating system for aircraft. (10 Marks)  
b. With a neat sketch, explain APU control and indicating panel. (10 Marks)
- 8 a. When the technique must troubleshoot a discrepancy without the use of chart, explain what process should be used? (10 Marks)  
b. Draw a troubleshooting chart for a stored gas oxygen system in a light airplane. (10 Marks)

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Important Note: 1. On completing your answers, conspicuously draw diagonal cross lines on the remaining blank pages.  
2. Do not attempt to re-write answers of questions which are already attempted as manipulation.