

382**October 2017**

Time - Three hours
(Maximum Marks: 75)

[N.B: (1) Q.No. 8 in PART - A and Q.No. 16 in PART - B are compulsory. Answer any FOUR questions from the remaining in each PART - A and PART - B

(2) Answer division (a) or division (b) of each question in PART - C.

(3) Each question carries 2 marks in PART - A, 3 marks in Part - B and 10 marks in PART - C.]

PART - A

1. Name some applications of alloy steels.
2. What is tensile strength?
3. What are the advantages of composite materials?
4. What is the use of composite materials in aircraft structures?
5. What are the types of fabric used in aircraft?
6. List any three bolt types.
7. What is the use of locking plates?
8. What is riveting process?

PART - B

9. Explain heat treatment process.
10. What are the types of composite materials used in aircraft?
11. What are the types of defects occurred in wooden structure?
12. State the characteristics of fabrics used in aircraft.
13. What is the difference between keys and pins?
14. What is self-tapping screws?
15. Explain inspection of riveted joints.
16. Name the different modes on failure of a riveted joint.

PART - C

17. (a) Briefly explain testing of ferrous materials for hardness and tensile test.

(Or)

- (b) Explain the properties and identification of non-ferrous materials used in aircraft.

18. (a) List out the types of defects in composite and explain any one defect repair method.

(Or)

- (b) Explain about the construction methods of wooden airframe structures.

19. (a) List out the types of defects in fabric. Explain any one method for fabric.

(Or)

- (b) Briefly explain environmental condition inspection method.

20. (a) Briefly explain the types of bolts and nuts used in aircraft.

(Or)

- (b) List out the types of studs. Explain any three types of stud.

21. (a) Explain about rivet spacing and pitch.

(Or)

- (b) List out the types of rivets. Explain any two types of rivet.
