

April 2019

*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 are the advantages of composite materials?
3. What are the types of fabric used in aircraft?
4. What is the use of locking plates?
5. Define fatigue strength.
6. What is deterioration in materials?
7. Give types of defects in fabrics.
8. What are the tools used for dimpling?

PART - B

9. Explain heat treatment process.
10. What are the types of defects occurred in wooden structures?
11. What is the difference between keys and pins?
12. Explain inspection of riveted joints.
13. Define tensile strength.
14. What are the uses of sealing and bonding agents?
15. Define self locking nuts.
16. Define heat treatment.

[Turn over....

PART - C

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

(Or)

- (b) What are the characteristics and properties of common alloy steels used in aircrafts?

18. (a) Explain about the construction methods of wooden airframe structures.

(Or)

- (b) How to identify and repair defects in composites and non-metallic materials?

19. (a) Briefly explain environmental condition inspection method.

(Or)

- (b) What are fabrics? Give their types, characteristics and properties.

20. (a) List out the types of rivets. Explain any two types of rivet.

(Or)

- (b) (i) Define heat treatment.
(ii) How to inspect riveted joints?

21. (a) List out the types of studs. Explain any three types.

(Or)

- (b) Discuss in short on all types of locking devices.
