443

April 2018

<u>Time – Three hours</u>
(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. Define tensile strength.

2. Name some applications of alloy steels.

3. What is the difference between composite and alloys?

4. What are the advantages of wood in aircraft construction?

5. What are all the dimensions that can be measured in screw threads and by which instrument?

6. What are the types of bolts used in aircraft?

7. Differentiate solid and blind rivet.

8. What is heat treatment?

PART – B

9. What is meant by impact resistance?

10. What is the use of hardness test?

11. What are the general requirements of all composite materials?

12. What is tolerance?

13. What are the marks shown on the head of a bolt?

14. Explain wire locking.

15. List out the advantages and disadvantages of aircraft rivets

16. Define voids in composite materials.

[Turn over.....

PART – C

17. (a) Explain testing of nonferrous material for hardness, tensile strength and impact resistance with neat sketch.

(Or)

(b) Explain about heat treatment for ferrous materials. List out the applications of alloy steel.

18. (a) Explain about the characteristics of advanced composite materials.

(Or)

(b) List out the types of wood used in aircraft. Explain about the maintenance of wooden structure.

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

(Or)

(b) Explain the inspection methods available for fabrics in aircraft.

20. (a) Explain about locking devices in aircraft joint.

(Or)

(b) Discuss the role of fasteners in aircraft structure.

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

(Or)

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

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