Hall Ticket No | | | | | | | | | | | Question Paper Code: AAEB16

INSTITUTE OF AERONAUTICAL ENGINEERING
(Autonomous)

B.Tech V Semester End Examinations (Regular), February – 2021

Regulation: IARE–R18

AIRCRAFT PRODUCTION TECHNOLOGY

Time: 3 Hours **(AE)** **Max Marks: 70**

Answer any Four Questions from Part A
Answer any Five Questions from Part B

PART – A

1. Differenciate between hardening and tempering process. How the micro-structure of the ferrite materials varied by it? **[5M]**
2. What is the importance of casting and moulding in aircraft industry? **[5M]**
3. Discuss the steps involved in riveting proces. **[5M]**
4. Sketch Lathe machine neatly and mark all the important parts. **[5M]**
5. Write short notes on FRP composites. **[5M]**
6. Draw iron-carbon phase diagram and mention all reactions clearly? **[5M]**
7. Explain about centrifugal casting with neat sketch. **[5M]**
8. List the tools used in sheet metal processing and their applications. **[5M]**

PART – B

9. Explain heat treatment of an aluminum alloy? How aluminum alloys play an important role in aeronautical firm? **[10M]**
10. Define ferrite, pearlite, and austenite. What are the applications of them? **[10M]**
11. Define the principle of brazing technique. Discuss about brazing materials and application of brazing. **[10M]**
12. Discuss the die casting proccess. What are the limitations and applications of die casting? **[10M]**
13. Explain drawing and cupping operations. Write the applications and advantages of these. **[10M]**
14. Explain punching and blanking operations. Write the applications and advantages of these. **[10M]**
15. What are the advantages of unconventional machining over conventional machining and list the applications of it? **[10M]**
16. Explain the working principle of ultrasonic machining with neat sketch. **[10M]**
17. Discuss briefly the materials used in various parts of an airplane. **[10M]**
18. Discuss in detail about isotropic, anisotropic and orthotropic materials. **[10M]**

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